

February 1976 30p

AIRFIX

magazine for plastic modellers

Inside: American Civil War figure conversions, 8th Army models, Blenheim colours and Operation Sealion



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magazine for plastic modellers

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On the cover

Top Boxtop artwork from Airfix's new 1:72 scale F-14 Tomcat kit depicting a machine in the colourful markings of a US Navy aircraft from VF-1 on the USS *Enterprise* (see also feature on pages 355-7). Left Sergeant, 14th New York State Militia, Union Army 1861-4, carrying flank marker (*Gerry Embleton*). Right HMS Antelope, second of the Royal Navy's Type 21 Frigates (*L/A Tony Thomas, HMS Daedalus*).

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NEWS FROM AIRFIX

1 German E-boat 2 Panavia MRCA

1

CLOSELY following the introduction of the Vosper MTB is a new addition to the Airfix high speed boat range in 1:72 scale — the German E-Boat (Kriegsmarine Schnellboot), which was well known for its hit and run forays against Allied shipping in the English Channel and the North Sea during World War 2.

This powerful, heavily armed craft was developed by Germany along similar lines to those pioneered by the early British Coastal Motor Boat, but with the addition of many refinements. The most significant of these was the use of triple diesel engines as opposed to the unreliable, often dangerous petrol engine, together with a round bilge hull and a long low silhouette. Other modifications included a crew complement increased from 18 to 30; an engine capable of 40 knots and strengthened armament facilities.

The E-Boat proved to be most beneficial when used for night attacks as its off-white finish afforded ideal night camouflage due to the phosphorescent nature of the sea, enabling mine laying operations as well as shipping attacks to take place more effectively.

Due to the versatility of the Airfix kit, the E-Boat can be constructed either as a waterline or a full hull model and, when completed, measures 17½ inches. 247 pieces produce this high speed torpedo boat which incorporates features such as opening torpedo tubes, both at the back and the front and full rigging diagrams of

the wires and stays for the support mast. The kit comes with five crew figures, depth charges, a choice of authentic transfer sets, and a battle flag. Retail price is £2.35.

2

THE SWING-WING MRCA is the result of a combined effort between the United Kingdom, Germany and Italy and is presently Europe's most important military programme. Officially known as 'Tornado', the MRCA was conceived in 1969 and is destined to replace RAF Vulcans and Canberras in the strike and reconnaissance role, and later Buccaneers in the maritime strike role.

Many special features have been incorporated into the design of the MRCA which produce its outstanding performance and

set it apart from other aircraft, especially the unique swing-wings which, unswept, facilitate the aircraft's short take-off and landing properties and, in the fully swept position, allow for transonic low level, long distance missions.

The aircraft's specially designed RB 199 turbofan engine provides a Mach 2 performance at high altitude, while an advanced electronic system including a terrain following radar and an automatic target acquisition and weapon aiming system for single pass strikes in any weather.

Among the aircraft's main functions will be the provision of close air support for ground forces, and the undertaking of long-range low level strikes, naval strikes, and interception and reconnaissance.

This up-to-date Airfix kit pays special attention to the extraordinary details of the aircraft. The model is produced from 101 parts and includes a fully detailed cockpit; adjustable sweep wings; moving elevators, and air brakes which have optional positioning. A wide variety of armaments are also provided, the most notable being the new Cluster Bomb and the Martel missiles. Three sets of transfers come with the kit allowing the modeller to choose between the prototype MRCA or an aircraft from the RAF or German Navy. Retail price of the kit is 75p.





Air, land and sea

compiled by the editor

AS PART OF the development programme of the Royal Air Force Museum at Hendon, a new wing, known as the Dermot Boyle Wing, was opened by HRH the Prince of Wales on December 2 last. This has been designed with the intention of holding various displays and exhibitions from time to time, and has cost over £200,000. The first such exhibition to be mounted is called 'Wings of the Eagle' and portrays the development of German aviation from the 1600s to the present day.

The major part of the display consists of numerous photographs (and, for the early years, drawings) depicting significant aircraft and events, commencing with the various attempts and proposals at aviation in the 1680s. Then come the Lilienthal gliders in the 1890s, the Zeppelin airships of 1900, the first powered aircraft, and these then follow the course of German aviation through World War 1, the inter-war years, World War 2, and the post-war years, culminating in the MRCA.

In addition there are several relics and

Top right Messerschmitt Bf 109E on display inside the new wing of the RAF Museum. **Above right** Me 262 with dark green upper surfaces merging into light blue under surfaces. Wk Nr 112372 in black on fin above tailplane. Swastika is dark olive. Code 'X' is red with thin white outline on fuselage in front of white outline cross. **Right** This Me 410A was brought to Hendon from RAF Cosford. Mottled grey-green upper surfaces with white rear fuselage band. Forward code 'C' is red, rear 'C' is black. This code 'CC' is forward of the black cross on the starboard side of the fuselage. **Below** Rear view of the Ju 87D. Note the white tank on this side only of engine cowling. The aircraft has dark green upper surfaces with yellow rear fuselage band and light blue under surfaces. Fuselage code is RI+JK, with 'J' red and other letters black.



von Richthofen's Fokker Triplane and Gotha bombers, and aircraft machine-guns and bombs from both world wars. Also on show are uniforms (including that of Hermann Goering), badges of rank, decorations, aircraft instruments, cameras and a number of aircraft models.

Two engines are on view, a 1918 260 hp Mercedes and a 1941 BMW 801D from a Fw 190A. Within the new wing are two aircraft, a Fokker D.VII and a Messerschmitt Bf 109E, and also on show is a Henschel Hs298 air-to-air radio-controlled missile.

Displayed by the main entrance to the

Continued on page 326



AIRFIX NEW MODELS FILE

HAWKER SIDDELEY HAWK

Technical Details

Date of origin:	1974.
Engine:	One 5,340lb thrust Rolls-Royce/Turbomeca Adour.
Top speed:	535 knots.
Service ceiling:	44,000ft.
Landing speed:	100 knots.
Wingspan:	30ft. 10in.
Length:	39ft. 2in.
Height:	14ft. 5in.



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Continued from page 324

museum are three more aircraft, a Ju 87D, Messerschmitt Me 410A, and an Me 262, together with a V1 and a V2. The exhibition is open until May 31, and admission costs 20p for adults and 10p for children; the permanent museum display is of course free. The museum is open daily 10 to 6 and 2 to 6 on Sundays. Following the German display it is planned to mount a presentation on French aviation.

Above HMS Ark Royal seen during the eight-nation NATO maritime exercise 'Ocean Safari 1975' held in the Eastern Atlantic and Norwegian Sea last year. On board, securely lashed down, are Buccaneers and Phantoms. Taking part in the exercise were 65 ships and 17,000 men from Canada, Denmark, West Germany, the Netherlands, Norway, the UK and America. An uninvited participant was the Soviet Kresta II cruiser shown below (MoD).

Continued on page 328



AIRFIX NEW MODELS FILE

MULTI-ROLE COMBAT AIRCRAFT

Technical Details	
Date of origin:	1974
Engine:	Two 8,500lb thrust Rolls-Royce RB.199s.
Top speed:	Mach 2.
Armament:	Two 27mm cannon plus seven external weapon stations.
Wingspan (swept):	28ft.2in.
Wingspan (unswept):	45ft.7½in.
Length:	54ft.10in.
Height:	18ft.8in.



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MRCA Prototypa 02, based at BAC Military Aircraft Division's Warton Aerodrome in Lancashire, and flown by Paul Millett, the Division's chief test pilot, seen during in-flight refuelling exercises with an RAF Victor tanker.



Continued from page 326

HMS Antelope, second of the Royal Navy's new Type 21 frigates, pictured in the English Channel off the Isle of Wight. The tenth ship to bear the name, HMS Antelope was built by Vosper Thorneycroft, Southampton, and was designed by them in conjunction with Yarrow Ltd. The Type 21 frigates represent a new generation of warships for the Royal Navy and incorporates many new features, including all-gas turbine propulsion machinery. They displace 2,500 tons, have a length of 384 feet and a beam of 41½ feet. Their armament includes a new automatic rapid fire 4.5-inch gun and the Seacat close range anti-aircraft and surface-to-surface missile system (MoD).



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Squadron codes and colours 1939-45

By Michael J. F. Bowyer and John D. Rawlings

MP 76 Squadron (c)

Reformed May 1 1941 at Linton-on-Ouse from 'C' Flight 35 Squadron. Equipped with Halifax Is, eg MP:L-L9530 missing 12/13 August 1941, and also Mk IIs. Mk Vs came into use from April 1943 to February 1944, eg MP:H-LK902. Used Halifax IIs February 1944 to April 1945, eg MP:H-LK791, and then Mk VIs March to May 1945, eg MP:H-RG555. Squadron to Transport Command May 7 1945 and re-equipped with Dakotas, eg MP:S-KN559. Proceeded to India where it became 62 Squadron on September 1 1946.

MQ 226 Squadron (c)

Letters issued to squadron in September 1939, used on Battles in France, eg MO:J-K9182, and thereafter on Battles in Northern Ireland. Re-equipped with Blenheim IVs in May 1941, eg MO:A-V6510. Boston IIs began to replace these in November 1941, eg MO:F-W8287, and from mid-1943 the squadron flew Mitchell IIs, eg MO:C-FL673, and later Mk IIIIs, eg MO:Y-KJ561. Disbanded September 20 1945.

MR 245 Squadron (c)

At the start of the war the squadron adopted the letters DX but these compromised the coding of 57 Squadron. No 245's letters were changed in 1941 to MR when the squadron was then flying Hurricanes, eg MR:M-BE496. Typhoons were received at the end of 1942 and retained until August 1945, eg MR:M-JP802, MR:J-MN371. These were replaced first by Meteor IIs, eg MR:Q-EE286 used August-October 1945; Mk IVs in 1948, eg MR:C-VT109; and Mk 8s, eg MR:E-WA836. Squadron colours were adopted in 1951.

MS 273 Squadron (c)

These letters were almost certainly introduced when the squadron was flying Hurricanes in the Far East, and were subsequently used on Spitfire VIs, eg MS:S-MT793, and Mk XIVs, eg MS:F-RN218. Squadron disbanded January 31 1946.

Top Stirling 1 MG:M-W7442 used by No 7 Squadron in the late autumn of 1941 at Oakington. Behind stands a Wellington III of 101 Squadron, coded SR. **Second** A line-up of Spitfire Vs of 126 Squadron at Luqa, October-November 1942 (C. R. Long - via J. D. R. Rawlings). **Third** Spitfire Vb - MN:E (?), possibly AA857, of 350 Squadron after being shot down during offensive operations. The serial appears in very small characters above the fin stripe. **Fourth** Halifax 1 MP:L-L9530 of No 76 Squadron (IWM). **Bottom** Meteor III MR:Q-EE286 of 245 Squadron. Initially used by 504 Squadron April 10 1945 until it was taken on charge by 245 Squadron on August 18 1945. It was damaged in a flying accident on October 31 1945. Later it served with 1335 Conversion Unit for a few days in January 1946.

MS Stetton Flight Linton-on-Ouse (c)
This unit and the Northern Sector Flight



used MS as on Hornet F III MS:O-PX299 MS was also carried by Mosquito T III MS:A-TW117 of the Station Flight Church Fenton.

MT 122 Squadron (c)

Formed May 22 1941, the squadron successively flew Spitfire 1s, IIIs, IIbs, Vbs, eg MT:E-BM252, IXs and LF Vbs. Received Mustang IIIs in January 1944, eg MT:K-FB226, and used Mustang IVs, eg KM237, from May to August 1945. Between February and April 1946 it had a brief flirtation with the Spitfire 21. Disbanded April 1 1946.

MU 60 Squadron (c)

Letters worn on Blenheim 1s September 1939 to early 1942, eg MU:X-L8609. Later worn on Hurricanes, eg MU:T-HW788, and Thunderbolt IIs, eg MU.M-KL187. Use relinquished when squadron adopted Spitfire 18s in 1946, these carrying individual letters only.

MV 231 Squadron (?)

Letters long quoted for use by 231 Squadron, but no confirmation has ever come to hand. The squadron formed at Aldergrove on July 1 1940 using Lysanders. Tomahawks were used April 1942 to May 1943, then Mustangs. It was disbanded January 15 1944.

MW 217 Squadron (c)

Used between September 1939 and August 1942, first on Ansons, eg MW.F-K8766, then on Beauforts, eg MW.N-L9764.

MW 101 Squadron (c)

After 217 Squadron left for the Far East MW became available for re-allocation. It was allotted to 101 Squadron for use by 'C' Flight, but no evidence has come to hand that it was ever displayed.

MW 1641 Flight (c)

Allocation confirmed, no details of use.

MX 1653 Conversion Unit (c)

A Liberator II was seen flying on January 1 1942 coded MX:M. On January 9 1942, 1653 CU officially formed at Polebrook and there is a possibility that this aircraft was on that unit's strength. The unit disbanded October 31 1942.

MX 31 Fighter Group USAAC (c)

Letters carried by Spitfire Vs of the 307th Pursuit Squadron August 1942 to October 1942.

MX 78th Fighter Group USAAF (c)

First used by P-47s then P-51s of the 82nd Fighter Squadron based at Duxford February 1943 to October 1945.

MX Station Flight Gletton (c)

Allocation confirmed, use not known.

MY 278 Squadron (c)

Formed as an Air-Sea Rescue squadron September 1941 and equipped with Lysanders, Walruses and Ansons. Later used Defiants and later Spitfire IIICs and Vs, Walruses and Sea Otters. Examples Anson MY.A-EF985, Walrus MY.A-L2268, Spitfire IIc MY.P-R6965 and Sea Otter MY.U-JM885.

MZ 96 Bomb Group USAAF (c)

Used on B-17s of 413 Bomb Squadron April 1943 to December 1945.

MZ 83 OTU (?)

Letters reported as worn by Wellingtons of this unit.

M2 438 TCG USAAF (c)

Carried by C-47s of 88 Troop Carrier Squadron.

M2 33 MU (c)

Letters allocated to this unit, use not known.

M3 452 Bomb Group USAAF (c)

Allocated to 729th Bomb Squadron but never displayed during the war. Possibly used immediately after the war.

M4 587 Squadron (c)

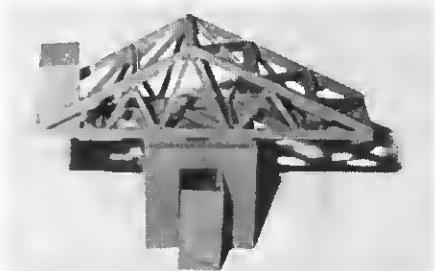
Formed September 1944 and disbanded June 1946. An AAC squadron. Operated an assortment of types, eg Spitfire XVI M4:V-TB304, Oxford M4:HN132, Harvard M4:R-FS767, Martinet M4:16 - HP216, Hurricane 1 M4:O and Vengeance TT IV HB456. □

Modelling coastal fortifications

Scenic structures for those refighting Operation Sealion by Terry Wise

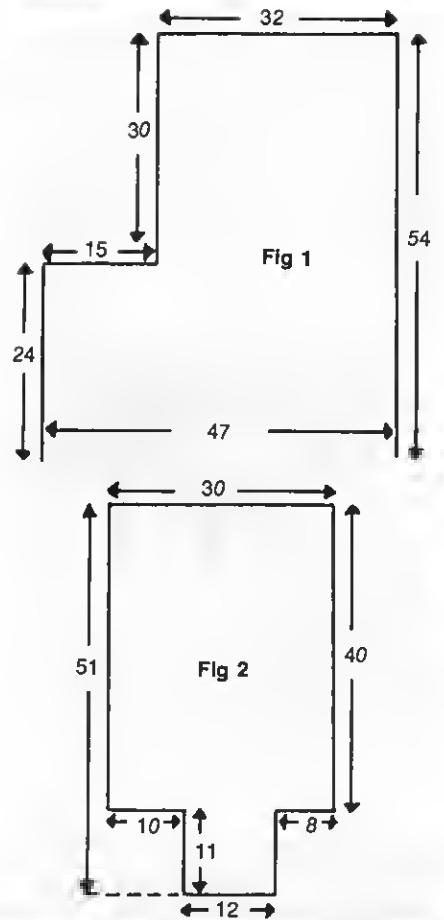
very few and far between; the armour was scattered or concentrated in the wrong places. In July Britain was at her most vulnerable.

In early July, the first possible date for an invasion and the one most likely to be chosen for a wargames campaign, the defences listed above were far from complete, particularly the beach defences, and the only effective fortifications likely to have faced the Wehrmacht were locally built pillboxes. In the summer of 1940 preoccupation with aerial attack led to a mania for concealing these pillboxes in all manner of disguises: actual examples are illustrated and have been modelled to form isolated strongpoints against which it is hoped the Wehrmacht's spearpoint might be blunted during a wargames campaign. □

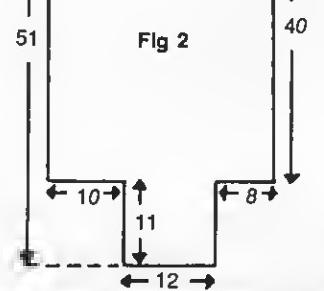
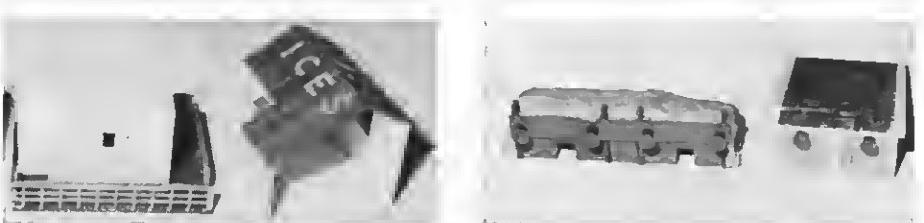


Below A square pillbox disguised as a crane guarding the entrance to an inner harbour. The sides look about 7 feet long, say 30 mm for the model. Parts, in 40 thou card, are three 30 mm squares (front, rear and roof); two 28 mm × 30 mm high (sides). Rear wall has a 25 mm × 10 mm doorway, shielded by an L-shaped barrier. Apertures are 12 mm × 5 mm, bottom edge 16 mm up from the base. Cement scraps of card inside to create splayed effect. Plaster girders or parts from the Airfix Signal Gantry form the crane, which can be copied from these two photos. The counterweight box is 20 mm high by 16 mm wide by 12 mm deep. Grey paint was used since any attempt at camouflage would have drawn attention to the pillbox.





Above A false hut on a beach containing a rectangular pillbox, modelled in 40 thou card as shown below left. Pillbox walls 30 mm high by 40 mm wide; front and rear walls 30 mm high by 28 mm wide, fitting between sides. Apertures, doorway and L-shaped barrier as on previous page. Roof as Fig 2. Hut wall lengths shown by Fig 1. All are 31 mm high except the 24 mm length (lean-to) which is 21 mm. 15 mm length of wall connecting lean-to to main building is angled along top edge from 31 mm to 21 mm. 15 mm x 10 mm windows coincide with pillbox apertures and may be boarded up or left open for firing. Roof: 20 mm wide by 56 mm long for plain side, lean-to side the same same for the first 30 mm from front, then 36 mm wide to cover lean-to. Add microstrip as battens every 11 mm. Both parts placed on 'plank' baseboard, 60 mm x 65 mm. Fencing 10 mm high from spares box. Baseboard, with locating frame over which pillbox clips, enables figures to be placed inside building without losing position on the wargames table.



Below Railways were a vital communications system in 1940 and rapid movement of the British reserves, especially the armour, depended on them. Dummy buffers, such as are shown in this photo, offered good opportunities for bunkers. **Above right** The model on the left is 70 mm x 35 mm x 20 mm high. Tube and punched discs for buffers. Card framework, and Plastruct I girders for old rail lengths, and Mod Roc to cover all as if with earth. The model on the right is basically the same idea but from Airfix station platform parts. Cut a 10 mm x 5 mm aperture in the end wall before assembly. The cut-out is held in place by card splays for the aperture. Buffers as before. This sort of ramp would be vital for leading tanks on and off railway flatcars.

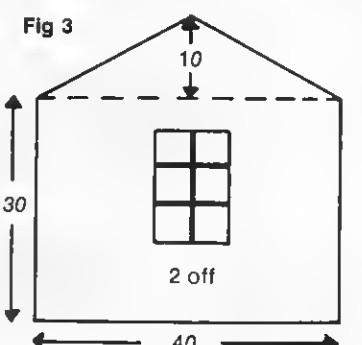


Fig 3 Dimensions for end walls of dummy house concealing a 6-inch naval gun as described on page 334.

F16 The hard hitting Lightweight

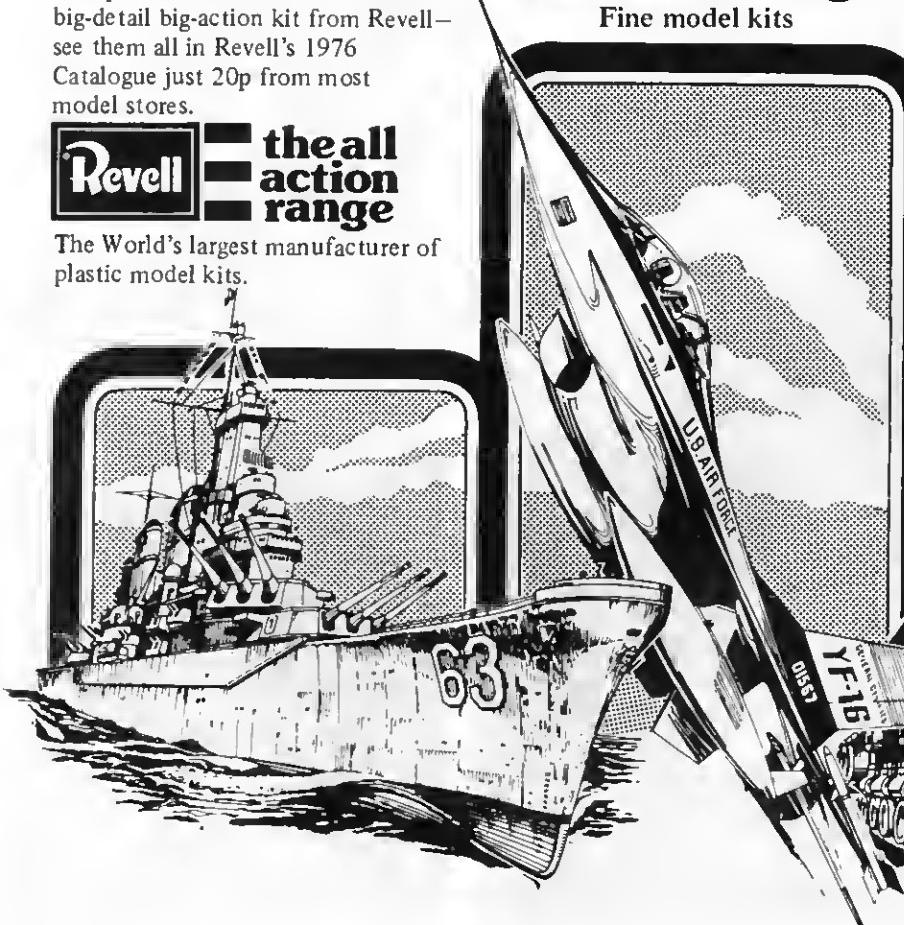
Bristling Battlewagon

Powerful and historic. That's the USS Missouri, over 45,000 tons of heavily-armed Iowa class battleship, and the actual vessel on which the documents of Japanese surrender were signed in Tokyo Bay. Completed in 1944—and still in reserve today—she saw action in two Iwo Jima landings and the bombardment of shore installations during the Korean War. They called her "Mighty Mo", and Revell's kit of this famous warship shows just why. It builds up into a 20" model which literally bristles with guns—nine 16 inch, twenty 5 inch, eighty 40mm, fifty 20mm. And there's so much down-to-the-seaplanes detail—even to a miniature replica of the plaque which commemorates the moment of Japan's surrender. Yet another big-detail big-action kit from Revell—see them all in Revell's 1976 Catalogue just 20p from most model stores.

Revell **the all action range**

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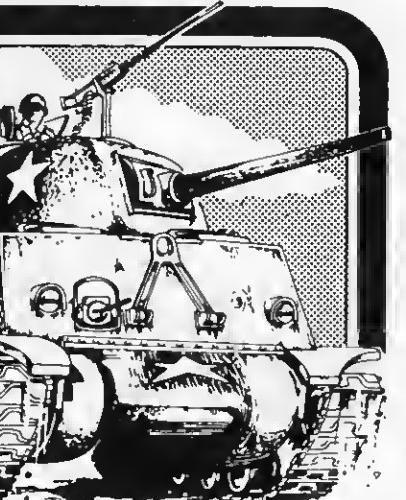
No cement needed, no painting necessary—you just snap this Sherman tank kit together, add the US Army markings and you've got a lifelike replica of a famous WWII fighting vehicle. And it acts like it as well! The turret swivels, the 75mm gun moves up and down, and there are two machine guns for extra fire power. It moves too—rumbling purposefully along on smooth, well-hidden wheels.

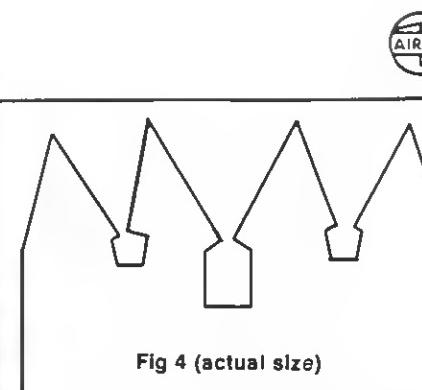
Yes, it's quite a kit, and so is the Revell German Panzer—the other new tank in this range. See them both at your nearest Revell stockist. And snap one together soon.

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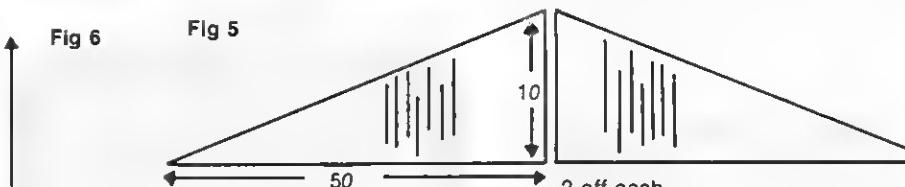
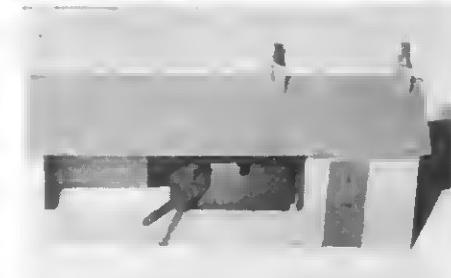
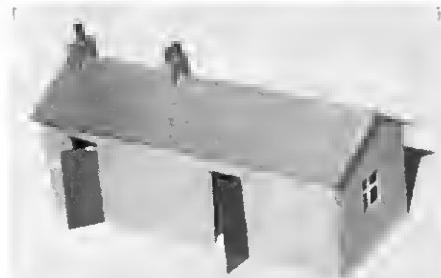
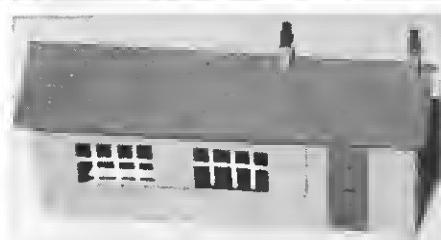
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Above left Dummy house of canvas and wood on a factory site, concealing a 6-inch naval gun. **Left** Three views of completed model, and gun construction. Model is from brick and tile card on a 30 thou backing, overall size 100 mm x 40 mm x 30 mm high (70 mm for gun room, 30 mm for ammo room, divided by a partition wall with doorway). End walls as Fig 3 on page 332. Rear walls 30 mm x 100 mm with 10 mm x 25 mm doorway for each room. Front wall 10 mm high for 70 mm, then 30 mm for front of ammo room, with dummy door. Gun is Airfix 5.5-inch with recoil buffers removed and 12 mm of same cemented along each side of barrel. Shield made as Fig 4 above. Gun mounted on 32 mm disc of 40 thou card, rotating on 37 mm square of card. False front panel, detachable, is 70 mm x 20 mm with two dummy windows. Roof is two 104 mm x 24 mm pieces capped by chimneys of balsa and tubing.



Making a model shed to conceal a Lewis AA gun. The model is 50 mm square by 15 mm high with a 49 mm square floor and 10 mm doorway. Front and rear roof parts as Fig 5, the two top halves as Fig 6. Beams to swing roof are 40 mm lengths of thick card. Overlapping lengths of microstrip were used to conceal roof joints. Hinges are Sellotape. Lewis gun was a plastic tube on a sprue mount.



Lewis AA gun disguised by a small shed about 3 feet high and 12 feet square. Note crews' equipment.

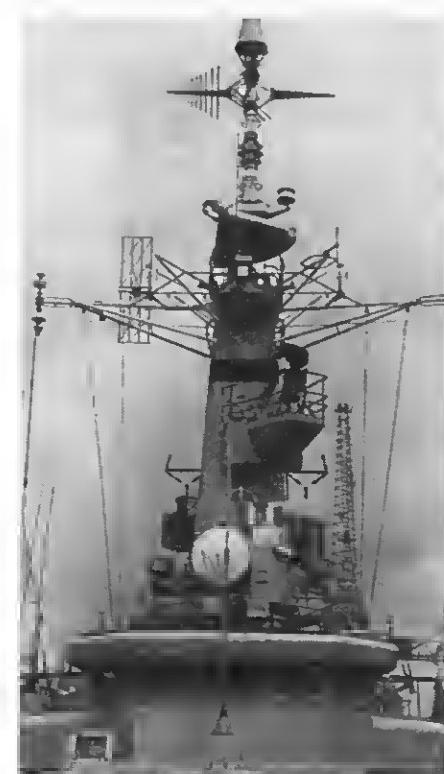


Adding detail to HMS Apollo

The penultimate 'Leander' described and photographed by Paul E. Beaver

THE GOOD SEAKEEPING ability of the 'Leander' Class general purpose frigate has been a feature which has made these vessels the largest warship class in the Royal Navy

since World War 2. 26 'Leanders' can be modelled from Airfix's 1:600 scale kit because 26 'Leanders' have been commissioned in the Fleet from HMS Leander in



Top of page HMS Apollo on left berthed next to HMS Londonderry of the 'Rothesay' Class. Both vessels have similar dimensions, the former being developed from the latter. **Left** Foremast and bridge detail looking aft from foredeck. Note aerials, radars and director. **Above** Deck detail right forward. Note capstans painted red/white, white bollards and fairleads. Deck itself is dark green.



The view from the Flight deck looking forward. Note especially the Seacat launcher and director on top of the hangar, also Flight deck floodlights and whip aerials.

most of the NATO countries, being in Norway during the summer. This Clyde-built ship (motto 'Strong and Kind') is the ninth Apollo in the Royal Navy and at the moment is Portsmouth based and serves with F4 squadron; hence the red '4' on her funnel. She also wears the black funnel topping of a Leader.

Her Wasp helicopter is coded 470 at the present time and its pilot can recognise his ship by the flight deck code of AP.

Technical data: Length 113.4 m; Beam 14 m; Cruising speed 30 knots; Range 4,500 nautical miles at 12 knots; Displacement 2,450 tonnes (standard), 2,860 tonnes (maximum).

Armament: Seacat AAM launcher for anti-ship and anti-aircraft defence; Wasp HAS 1 with homing torpedoes or missiles; Two 114 mm (4.5-inch) general purpose guns; Limbo AS mortar aft; and two 20 mm Oerlikon guns.

Sensors: Radars include Types 995, 993, 978, 903, 262; Sonars include Types 171 and 184 plus a Variable Depth Sonar (VDS) Type 199.

Colour scheme

Mild-grey Superstructure, hull, turret, breakwater, fittings including winches,

20 mm Oerlikon GP gun, starboard mounting. Gun is mid-grey with black breech and barrel. Note black funnel cap denoting a Leader.



American Civil War Zouave in 54 mm

Another colourful conversion using Airfix and Historex parts from Martin Windrow and Gerry Embleton

THE EARLY YEARS of the US Civil War were rendered more colourful than might otherwise have been the case by the widespread popularity — on both sides of the Mason-Dixon line — of extravagant uniform styles inspired by France's North African troops. France was, in the years before the *Année Terrible* of 1870, the most chic military power in the world, and imitation of zouave and chasseur à pied dress and drill was a feature of the numerous volunteer militia companies from which both Union and Confederacy drew the bulk of their armies. It had previously been assumed that these eccentric uniforms quickly wore out, to be replaced by ordinary Government issue; but further research now indicates that in

many cases they were jealously preserved throughout the great part of the war.

One unit to cling to its distinction was the 5th New York, 'Duryée's Zouaves', a regiment which served with great success alongside regular infantry in Sykes' Division of the V Corps of the Union Army. At Gaines' Mill, while suffering heavy losses under fire, it attracted attention by calmly 'counting off' and re-dressing to take up the gaps in its ranks.

The conversion described in this article is rather more demanding than those covered in previous months, but while it may be a bit challenging for the younger modeller it opens up a number of possibilities for the more experienced. The effect



we are trying to achieve is very like that illustrated in the accompanying painting of the 146th New York: structurally, our model differs from the painting only in that the 5th New York wore a sash with a stiffly braided end hanging down the front of the left thigh; that — like all zouaves when on campaign — our model has stowed away the white turban wound around the soft fez when on parade; and in button detail.

Head Use any well-moulded one you like, but those from the new Airfix 8th Army Multipose set are especially good and have usefully long necks. Make the fez from body putty or carve it from scrap plastic. The tassel in our model was cut down from a French Napoleonic plume from the Historex spares range, mounted on a bit of stretched sprue.

Torso The Historex range includes a torso wearing a French stable-jacket over a waistcoat, the jacket buttoned at the throat and falling open lower down. This is our basis. Carve the skirts of the jacket shorter and round the front corners. Open the throat a little, and cut down the collar until you achieve the shape illustrated. Carve and file the now-exposed lower part of the waistcoat into a sash. Remove all buttons except a single one at the throat of the waistcoat — which has now become a shirt, of course. Add the hanging sash end from plastic card.

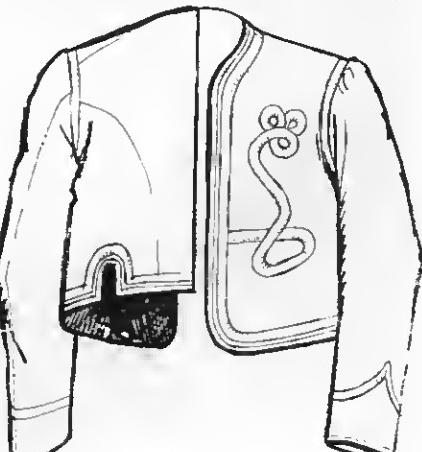
Legs are from two sources. The baggy saroual trousers are carved down from the Historex Mameluke legs, and cut off below the knee. The calf-length gaiters come from any pair of gaitered legs you like, from the spares box. There is really nothing more to say about this operation — the details of carving and matching must be up to the individual.

Arms are up to you, as long as they have wrist-length sleeves and match the torso in size; position depends on the chosen animation.

Equipment This comprises a cartridge pouch on a waist-belt which also supports a cap-pouch and bayonet scabbard, and a haversack on the left hip. The belt and haversack strap are made in the usual way from the plastic card provided with Airfix figure kits. The conventional socket bayonet in its scabbard is from the Airfix spares box, mounted at a slight angle on the left hip. Its attachment to the belt is covered by the haversack, made here from a carved chunk of soft scrap plastic, with a Historex buckle and strap-end. The cap-pouch on the right front of the belt is the



Right Front and rear braiding detail of 5th NY Zouave jacket. Note line of braid around shoulders. Left Rough sketch of trouser pocket braid, outside right leg shown here. Haversack and bayonet will probably obscure left leg.



Zouave of 146th NY. Red fez and tassel, white turban, light blue shirt, jacket and trousers with yellow braid, white gaiters, black leather equipment, red sash.

central section of the Airfix 95th Rifleman's bullet pouch, carved down. The cartridge box worn behind the right hip is from the spares box; any Airfix or Historex spare will do, with an oval plate added to the flap.

This, and the main belt buckle, are shaved slices from a piece of sprue filed to shape. The rifle-musket, if used, can be represented fairly well by judicious carving around the lock area of a French Napoleonic musket. We used a tin plate from the marvellous Historex sprue of plates, pots, cups and cauldrons; and a Bowie knife filed from an Airfix Afrika Korps bayonet. The pose selected may be described, perhaps, as: 'To you it may be stew, buddy; but to me it's still mule!'

Painting

Fez Red, bright azure blue tassel and stem. **Shirt** Dark blue, single brass button at neck, strip or red braid around collarless neck and down front join. **Jacket** Dark blue, red bading as line drawing herewith. **Trousers** Red, azure blue pocket piping on outside of thigh as in photos. **Sash** Red, azure blue stripes top and bottom, azure blue triangle on hanging end, as photo. **Gaiters** White. **Belt, cartridge pouch, cap-pouch, bayonet scabbard, boots** Black leather effect. **Belt and pouch-lid plates** Brass. **Haversack and strap** Gloss black (tarred cloth) effect. (NB Various versions of this uniform have been illustrated, differing in minor details; here we have followed the researches of the American artist George Woodbridge, a more recent source than the others generally quoted.)

Alternative suggestions

The basic shape having been mastered, Civil War zouaves of many colour-schemes can be produced. The accompanying illustration of the 146th NY suggests one alternative, but there are others equally colourful. The new Blandford title *Uniforms of the American Civil War*, by Haythornthwaite and Chappell, offers a feast of reference. Of interest are the 9th New York zouaves, in dark blue and purple, illustrated as Plate 19 of that book; the 114th Pennsylvania (Plate 26), the Maryland Guard Zouaves (Plate 52); and of course the famous Louisiana Tigers and Zouaves (Plates 54, 55). Each of these will present the modeller with different minor problems to be mastered, but all are quite possible with available Airfix and Historex bits and pieces. An extremely attractive chasseur uniform is that worn by the 14th New York Volunteers, a sergeant being illustrated in colour on the front cover of this magazine. Note that the jacket, round-bottomed with a false strip of shirt showing at the front and with three close-set rows of buttons, may be made without too much trouble from the Airfix Rifleman's coatee suitably carved about. The kepi is easy to make from body putty, using a Rifleman's shako peak as a basis. The trefoil shoulder knots are tricky, but if unable to lay your hands on a suitable Historex spare they can be made from thin fuse wire in the same sort of way as the 18th Century knot described in our conversion article on the Brunswick von Barner jäger a few months ago.

Other references which may be useful are *The American Civil War* by C. J. Hunt and G. A. Embleton, Almark; *The Army of the Potomac* and *The Army of Northern Virginia*, by P. R. N. Katcher, Osprey; and *Military Dress of North America 1665-1970*, by yours truly, Ian Allan Ltd — to whom our thanks for permission to reproduce the colour plate on the cover. □

Michael J. F. Bowyer

Army-air colours 1937-45

Part 5 — Enter the Blenheim

THE NAME Bristol Blenheim inevitably conjures the image of a day bomber often employed in a formation attack role, successor to the Hawker Hart and Hind and an aeroplane which bore the brunt of much fighting in the first two years of the war. This picture is not entirely true, for the Blenheim was as much a reconnaissance aircraft as anything else. Indeed, during the so-called 'phoney war' — anything but 'phoney' for the Blenheim crews — Blenheims operated mainly in a reconnaissance role. Coastal Command made much use of Blenheims as fighters and reconnaissance aircraft, and Bomber Command used them for strategic reconnaissance for which purpose they found initial employment in the army co-operation squadrons.

A major failing of the Blenheim 1 was that its short nose permitted a poor view for the pilot. Bristol, asked to improve this, first lengthened the nose whilst retaining its contours. Then the upper line of the forward portion of the nose in which the observer/navigator was placed was lowered, but still the pilot's view remained restricted. Finally, a groove was cut in the port side of the nose giving the pilot a better view ahead. This version was designated Mk IV.

From inception this machine was to serve as a reconnaissance bomber, a useful interim type for maritime work until later aircraft types became available as well as for army co-operation duties. Bomber Command already had a Blenheim 1 force. Therefore the Mk IV was initially issued to replace the aged Hectors of Nos 53 and 59 Squadrons.

First to be equipped was No 53 Squadron (unit letters TE) at Odiham where L4835, the first Blenheim IV to enter squadron service, was received on January 19 1939. The squadron was fully equipped by early March 1939, examples being TE.G-L4837 and TE.Q-L4840. Between March and June 1939 No 59 Squadron (PJ) equipped at

Andover with Blenheim IVs. Both squadrons had reformed in June 1937 to operate for the army in a night reconnaissance role using flares. The Hector was quite unsuited to this somewhat sophisticated task, hence re-equipment with the most advanced form of Blenheim immediately it became available.

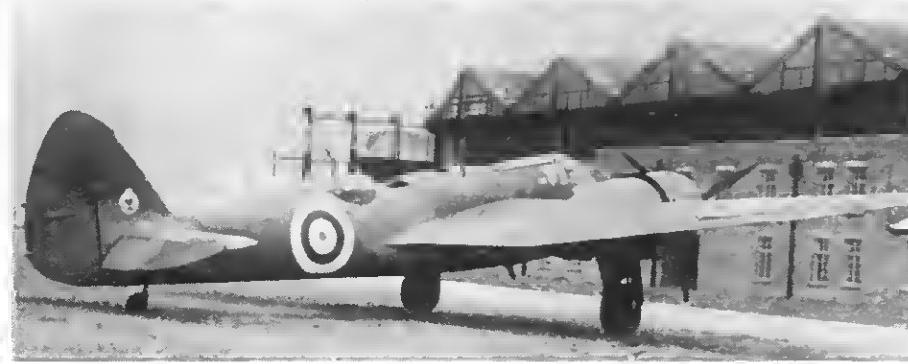
Work up was slow. Aircrew were at first attached to bomber squadrons for conversion, and in the case of No 59 Squadron this had begun in December 1938. But even by September 1939 the squadron was not operational in its difficult task. Indeed, the last Hector did not leave that squadron until September 28 1939. By then the two army co-operation Blenheim squadrons had been committed to the Field Force of the Air Component of the British Expeditionary Force, France.

Part of the problem lay in crew training. The pilot had an additional job to flying the machine for it was his task to make visual reconnaissance, send radio reports and receive radio messages in return. The Sergeant/Observer positioned in the nose of the Blenheim served as navigator, operated the camera and assisted in visual reconnaissance as well as handling some of the radio communications. The air gunner was also a radio operator and it was his task to keep the radio set tuned for the job. Team work was essential, and for night operations the training needed was lengthy.

On September 1 1939 the first elements of No 59 Squadron set out for France sailing from Southampton on the famous Royal Daffodil. They established camp at Poix where No 53 Squadron arrived a few weeks later. Strategic reconnaissance patrols for Army GHQ over areas well behind the Siegfried Line began in October in the case of No 53 Squadron, later in the case of No 59, which is believed to have flown its first night reconnaissance sortie, to the Cologne area, on April 1 1940.

The strength of the Blenheim comple-

Among the Blenheim 1s of 57 Squadron which went to France in 1939 was L1145, seen here in 1938 before the adoption of Type B roundels and unit letters. The fin still carries 57 Squadron's badge. The aircraft was lost in France in May 1940 (B. C. Morrison).



The first major revision of the Blenheim was the Bolingbroke 1 which resembled the Blenheim 1 but with a nose transparency sited further forward. The pilot's view was not good enough.

ment in the Air Component was increased when home-based No 2 Group was re-organised at the start of the war. No 18 Wing at Upper Heyford was in the process of re-equipping its Blenheim IVs, but before this could be fully implemented they were switched to Field Force France. During September 1939 No 18 Squadron moved to Beauvais and No 57 to Roye/Amy. In October they took up new stations, No 18 at Meharicourt and No 57 at Rosieres-en-Santerre, bases in use until May 1940. Both squadrons were equipped with Mk 1s until March 1940 when Mk IVs replaced them.

The Blenheims of Nos 18, 53, 57 and 59 Squadrons proceeded to France in their pre-war colours of Dark Green and Dark Earth with black under surfaces. Type B roundels were worn until late 1939 when Type A roundels were applied to the fuselage sides and beneath the wing tips. The camouflage colouring, unsuitable for daylight operations, was retained until Sky under surfaces were gradually applied to most aircraft during the early weeks of

1940. In the case of the Blenheim IVs of Nos 18 and 57 Squadrons, these wore Sky under surfaces from their introduction to the squadrons. The Sky shade applied in France was probably mixed in the field, for it was a shade of pale greyish-blue not at all like that worn by the Blenheims of Nos 114 and 139 Squadrons painted at Wyton and Heston late 1939 which was of a greenish shade. Squadron letters (unit lettering aft) was a medium shade of grey. Fin stripes of varying styles, and yellow surrounds to fuselage roundels, were added around the time of the opening of the battle for France. As with other squadrons in France, the Blenheim units exhibited a variety of sizes and styles of national identity markings. Some aircraft, in keeping with those of 2 Group, had their under surfaces brought some way up the fuselage sides and terminated in broad wavy lines. Sky trim on the noses of the Blenheims varied too.

Back up for crew training was the task of the School of Army Co-operation. At first a few Blenheims trickled into the SAC at Old Sarum, but a change of policy sent them to

K7072 was subsequently further modified by having the pilot's windscreens brought closer to his position, and the nose scalloped ahead of the pilot. This version became the Blenheim IV; a variant of the aircraft which was looked upon more as a reconnaissance machine than a bomber.



a twin-engined training echelon at Andover which for a few weeks was known as 'School of Army Co-operation No 22 Group Pool'. Bomber and Fighter Commands operated Group Pools through which aircrew passed for operational training after their periods at Flying Training Schools. No Group Pool existed in 22 Group, and the twin-engined training school at Andover was renamed No 2 School of Army Co-operation in which all Blenheim training was centred. Following the fall of France this unit which became No 6 Operational Training Unit concentrated on training crews for Coastal Command.

Operational employment of the Blenheims in France was spasmodic. Their main task was to obtain photo and visual reconnaissance of enemy land forces behind the front lines. Operations for No 57 Squadron began on October 13 1939 when Wing Commander H. A. M. Day and crew in L1138 were sent to view road and rail activity in the Hamm-Soest area and failed to return. The same day L1147 was ordered to the Munster-Bremen area. Weather was

aircraft

poor and the aircraft ran out of fuel and crash-landed in England. Three days later L1141 sent to the Wesel-Bocholt-Essen area did not return and probably fell to enemy fighters. On October 30 a reconnaissance of the Siegfried Line was attempted by L1139, then by L1146 which was attacked by Bf 109s and returned damaged to Orly.

Few operations were flown in November but they cost two Blenheims. Three sorties over the Siegfried Line were undertaken in December and a few sorties in January 1940 when L1280 was shot down over Germany. Only two sorties were flown in February after which operations were halted until May 1940 since conversion to Blenheim IVs was to take place. The volume of operations was similar for the other squadrons.

The intensity of action in May 1940, and its rapid movement, put the Blenheim squadrons at great disadvantage. Their bases were heavily raided. Retreat was soon forced upon them. What was needed by the BEF was fast, accurate reconnaissance of the enemy advance, not strategic reconnaissance of rear positions for which the Blenheim force was trained. In the former role the Lysanders were employed to a limited extent and the Blenheims' employment by day resulted in a high attrition rate.

Between May 10 and 19 the fully committed four squadrons saw much action despite the high risk involved by lone bombers in fighter zones. Activities of the squadrons are sparsely recorded anywhere, many records being lost in the evacuation from France. Thus it would be most interesting to hear from any readers who served with the squadrons at this time.

No 59 Squadron was in action from May 10 when TR:I-N6169 flown by Flying Officer H. F. Wood reconnoitered the Maastricht bridges and crossing points over the Turnhout Canal. For safety he hedge-hopped home. Another sortie to the same targets came next day, and L4856 operated over south Holland. The dangers inherent in such operations were brought out on May 16 when N6168 operated in the Louvain area. Flak was encountered, then Hurricanes, mis-identifying the Blenheim, fired upon it. N6168 landed wheels up and with flaps out of action.

Some brief attempt was made to use the Blenheims as close support/tactical bombers when on May 17 No 59 Squadron was alerted to bomb transport on the Cambrai-Le Cateau road. The crews were recalled and only one bombed.

On May 19 the four squadrons began to return to Britain. No 59 soon resumed operations from Hawkinge, using aircraft including TR:D-R3664, TR:B-L8790, TR:M-L8793 and TR:P-T2815. From R3664 Flying Officer J. F. H. Peters observed the Dunkirk evacuation on May 28. Anti-aircraft fire hurled the aircraft onto its back. Two of the crew jumped clear then the observer drifted into enemy hands. As the pilot parachuted down shots entered his parachute before he was rescued and brought home by sea. A few sorties were flown from French airfields after the BEF had been snatched from Dunkirk.

For the Blenheim squadrons, as with the Lysander squadrons, the campaign for France had proven a disaster.



Above Photographs of the reconnaissance Blenheims in France seem never to have materialised, but this picture of two bombers of 139 Squadron gives some indication of their appearance in early 1940. Under surfaces are Sky with slight differences in demarcation with the upper surface camouflage, clearly evident on the noses of these two machines. (IWM). Below The fate of many of the Blenheims remains obscure. The end of Mk IV L9248, DX coding identifying 57 Squadron, can be seen here. Sky under surfaces terminate in a wavy line, the fin striping is clear. Also in the graveyard are Morane Saulnier MS 406s, whilst a Bf 109 above flaunts its ascendancy (via J. Goodwin).



Blenheim squadrons on Army Co-operation Command and the Air Component 1939-1940

18 Squadron (unit letters WV). Moved from Upper Heyford to Beuvrages in September 1939. To Méhericourt October 1939. To Guyancourt, Crécy in May 1940. Left for England May 19 1940 and rejoined 2 Group et Wetton.

53 Squadron (unit letters PZ). Moved from Odham to Poix October 1939. Retired to Crécy in May 1940 and returned to Lympne May 20. Based at Gatwick in June 1940, to Coastal Command July 3 1940.

57 Squadron (unit letters DX). Moved from Upper Heyford to Roye/Amy September 24 1939. To Rosières-en-Santerre October 17 1939, to Poix May 18 1940 (via Crécy). Left for England May 19 1940. Rejoined 2 Group at Wyton May 22 1940.

59 Squadron (unit letters TR). Moved from Andover to Poix September 1939. Returned to England May 23 1940 via Crécy and was then based at Lympne. Operated from Eastchurch in May 1940 and was based at Odham in June 1940. Transferred to Coastal Command in July 1940.

Bristol Blenheims used by Army Co-operation Squadrons and the Air Component (Field Force) between January 1939 and 30 June 1940.

18 Squadron. Aircraft used between 1.9.39 and 22.5.40: Mk IV: L4835 19.1.39 - 24.7.39, L4836

Continued on page 342



KFZ 223 GERMAN SCOUT CAR

Another fine Armoured Car following on the popular 222. The widely used Sd Kfz 223 carried a medium range wireless set. This required a rectangular frame aerial mounted on four supports hinged to the body which could be lowered to reduce the silhouette. The kit faithfully reproduces this detail and comes complete with Commander figure and Decals. £1.50

KVII RUSSIAN TANK

The long awaited Military Miniature of the Russian Heavy Tank KV-II. Gigant as its name suggests, was a large tank standing over 13' high. First fitted with a 122 mm Howitzer, later replaced by a 155 mm Howitzer. This vehicle was successful as a siege weapon but was not very mobile. Kit contains super detail, Commander figure and realistic Decals. £2.80

NEW 4 POWERFUL MODELS

FROM TAMIYA

M41 American Tank

The U.S. Light Tank M41 was designed to provide mobile fire power and crew protection for reconnaissance and troop support. It is widely used by NATO countries and is now available in three different versions from Tamiya. The new Military Miniature, GO276, priced at £2.20. The single motor version, GO266 at £2.99 and the action-packed Remote Control at £3.99.

ALL IN 1/35 SCALE



Prices shown here are suggested selling prices only and include V.A.T.

RICHARD KOHNSTAM LTD., 13-15a HIGH STREET, HEMEL HEMPSTEAD, HERTS.

Continued from page 340

15.2.39 - crashed 14.3.39, L4837 16.2.39 - 17.4.39, L4838 16.2.39 - 17.4.39, L4839 16.2.39 - 9.40, L4840 16.2.39 - 21.10.39, L4841 18.2.39 - FTR 19.5.40, L4842 23.2.39 - FTR 17.5.40, L4813 23.2.39 - FTR 17.5.40, L4815 2.3.39 - 30.11.39, L4817 3.3.39 - 26.9.40, L4849 6.3.39 - 17.8.40, L4850 10.3.39 - accident 23.5.40, L4851 10.3.39 - 28.10.39, L4852 8.3.39 - 16.5.40, L4854 9.6.39 - 28.10.39, L4862 30.11.39 - destroyed by bombing 10.5.40, L4864 21.3.39 - ?, L8868 ? - FTR 27.5.40, L8864 27.5.40 - 30.5.40, L9190 6.3.40 - lost in France, L9238 15.5.40 - 11.40, L9244 15.3.40 - 29.11.40, L9266, L9325 1.3.40 - 16.4.40, L9329 ? - FTR 5.40, L9330 22.2.40 - lost in France, L9331 22.2.40 - lost in France, L9332 12.3.40 - crashed 13.5.40, L9339 12.3.40 - FTR 16.5.40, L9470, L9471 28.5.40 - lost in action, P6922 25.3.40 - 2.4.40, P6926 25.3.40 - 2.4.40, P6926 25.3.40 - FTR 14.5.40, P6928 26.3.40 - 27.3.40, R3596 10.5.40 - lost in action 22.5.40, R3633 12.4.40 - 16.5.40, R3634 11.4.40 - 15.5.40.

57 Squadron. Aircraft used between 1.9.39 and 22.5.40: Mk I: L1113 22.8.39 - 16.10.39, L1117 22.8.39 - 18.10.39, L1136, L1137 2.4.38 - 3.3.40, L1138 4.4.38 - FTR 13.10.39, L1139 5.4.38 - ?, L1140 5.4.38 - 10.2.40, L1141 6.4.38 - FTR 16.10.39, L1142 7.4.38 - ?, L1145 9.4.38 - lost in France, L1147 11.4.38 - written off after operational sortie 13.10.39, L1148 13.4.38 - FTR 16.10.39, L1149 13.4.38 - 5.40, L1171 9.8.39 - lost in action, L1180 14.10.38 - FTR 16.11.39, L1280 14.10.38 - FTR 25.1.40, L1319 14.10.38 - 22.2.40, L1325 31.3.39 - FTR 16.11.39, L1331 30.11.39 - 21.3.40, L1333 30.11.39 - ?, L6793 11.12.39 - 9.3.40, L6795 11.12.39 - 4.1.40, L6796 21.12.39 - 19.4.40, L8597 19.11.39 - 2.4.40.

Mk IV: L9027 9.7.40 - 3.12.40, L9183 25.4.40 - 12.40, L9184 21.3.40 - FTR 22.5.40, L9245 16.3.40 - lost in France, L9297 20.3.40 - 20.5.40, L9248 26.1.40 - lost in France, L9249 27.3.40 - 20.3.40, L9325 16.4.40 - 8.5.40, L9465 11.4.40 - FTR 14.4.40, P6928 9.4.40 - 8.40, P6930 27.3.40 - FTR 13.5.40, P6931 5.4.40 - 20.5.40, P6933 22.4.40 - 20.5.40, R3595 10.4.40 - lost in France, R3598 11.4.40 - FTR 25.5.40.

59 Squadron. Aircraft used between 3.39 and 6.40: Mk IV: L4855 2.6.39 - 23.5.40, L4856 22.5.39 - lost in France, L4857 22.5.39 - lost in France, L4858 18.5.39 - 22.5.40, L4859 1.6.39 - lost in France, L4850 1.6.39 - lost in France, L4861 1.6.39 - lost in France, L4862 20.3.39 - 30.11.39, L4863 20.3.39 - crashed 19.5.39, L9266 - ? - FTR 22.5.40, L9463 11.4.40 - 11.40, N6164 9.6.39 - lost in France, N6167 25.5.39 - lost in action 16.5.40, N6169 28.5.39 - lost in France, N6170 26.5.39 - 10.4.40, N6172 26.5.39 - 22.5.40, N6173 26.5.39 - FTR 14.5.40, N6179 (TR:O) 29.6.39 - 17.4.40, P6922 2.4.40 - 10.4.40, R3613 23.5.40 - FTR 26.5.40.

School of Army Co-operation, Old Sarum. Aircraft used 1939-40: Mk 1: L1322 15.9.39 - 4.12.40. Mk IV: L4837 28.10.39 - 17.5.40, L4845 2.12.39 - 14.6.41, L4851 28.10.39 - 14.6.41, P6896 25.10.39 - 6.3.40, P6899 25.10.39 - SOC 13.1.40.

No 2 School of Army Co-operation, Andover: Mk 1: L1357 27.3.40 - 8.7.40, L1370 1.4.40 - burnt out 10.4.41, L1501 18.6.40 - ?

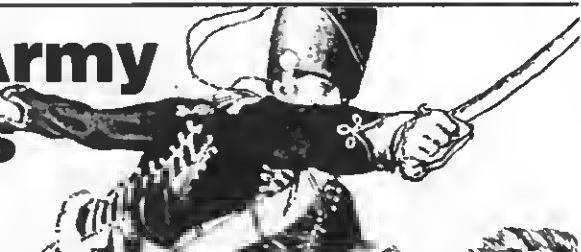
Mk IV: L4837 28.10.39 - 17.5.40, L4853 14.2.40 - crashed 15.8.40, L4854 28.10.39 - 17.1.40, L4855 23.5.40 - 14.6.41, L4858 22.5.40 - SOC 2.9.40, L9194 17.5.40 - 30.7.41, N3535 2.7.40 - crashed 29.10.40, N3554 31.5.40 - 14.6.41, N3555 27.5.40 - 6.7.40, N3556 27.5.40 - 14.6.41, N3565 27.5.40 - 14.6.41, N3566 5.6.40 - 18.7.40, N3567 27.5.40 - 18.3.41, N6172 22.5.40 - 14.6.41, P4829 7.10.40 - 17.6.41, P6900 25.10.39 - 16.1.40, 8.8.40 - 3.7.41, Z5813 18.9.40 - 14.6.41, Z5814 18.9.40 - burnt 25.6.41, Z5815 18.9.40 - 14.6.41, Z5816 15.9.40 - 9.10.40, T2441 19.11.40 - crashed 27.11.40, T2443 19.11.40 - crashed 18.3.41, V5382 26.11.40 - 14.6.41, V5637 24.12.40 - 7.4.41, L9020 2.1.40 - ?, L9021 2.1.40 - 14.6.41, L9031 28.11.39 - crashed 20.5.40, L9032 28.11.39 - crashed 28.1.40, L9033 28.11.39 - SOC 31.1.40.

Dates listed are from official records, and some may be paper transactions. Abbreviations: FTR = tailed to return, SOC = struck off charge, CDBR = crashed, damaged beyond repair. □

British Army uniforms

1660-1900

Infantry uniforms in the 1790s by Bryan Foster



BY THE EARLY 1790s the Horse Guards were taking a critical look at the general uniform characteristics of the British infantry. On the Continent of Europe it was becoming more common to clothe infantry in a fashion which emulated the Austrians, who had taken into use a loose fitting jacket, closed to the waist with a single row of buttons down the front and with a standing collar. Many armies were discarding the loose, long-skirted, lapelled coat which had been the universal soldiers' clothing for most of the 18th Century.

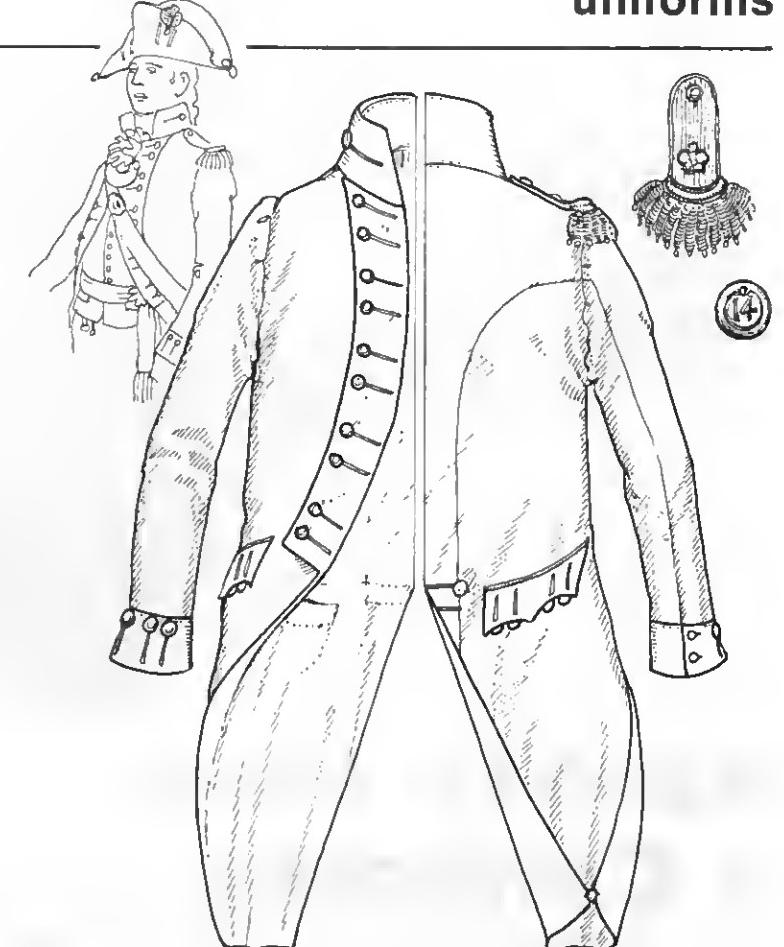
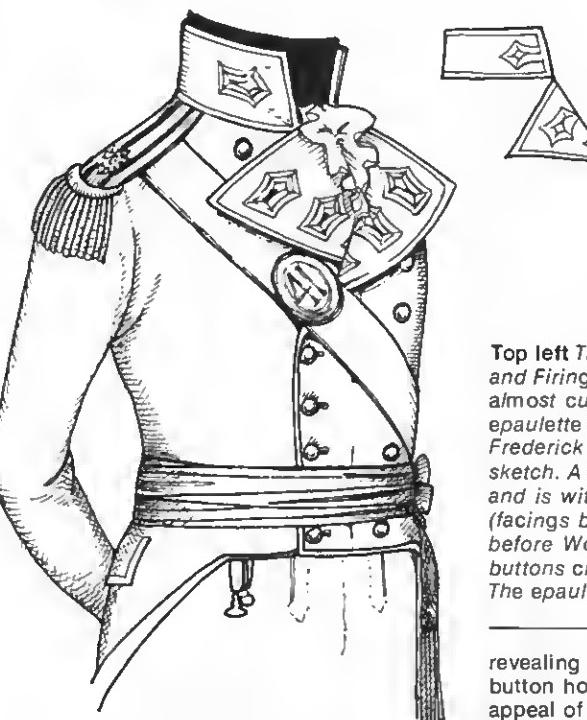
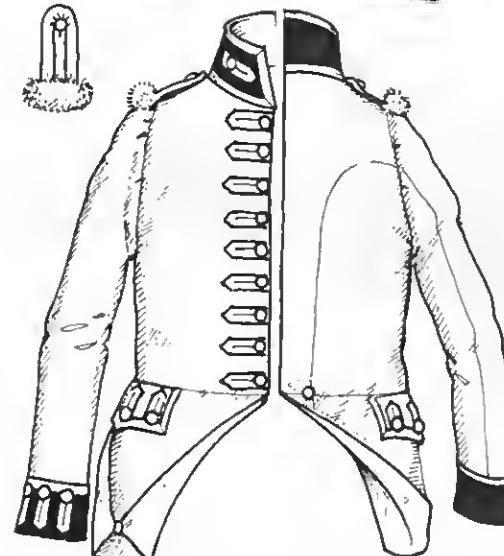
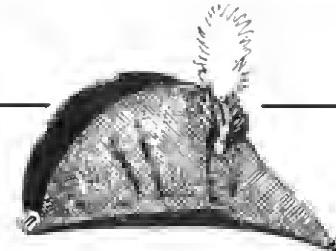
Perhaps the first indication that the conservative British High Command were taking notice of the new fashion was a Warrant, dated July 8 1791, which set out what the soldier must wear when proceeding to a foreign station: 'every recruit bound for foreign stations must wear a pair of gaiter-trousers and a red jacket with sleeves, to button like a waistcoat and be large enough to admit a waistcoat to be worn under it. It will have regimental facings on the collar, cuffs and shoulder straps and buttons of regimental pattern for distinction . . .'

Here we have a description of a coat which could well be the forerunner of the loose service jacket worn by the British infantry during the later years of the Peninsular and Waterloo Campaigns. This is not a well documented period and most of our sources will have to be either portraits or prints of the manual exercise which showed figures in various drill positions.

For example, there is the Manual Exercise dated 1795, drawn by Grainger and obviously intended to represent the Foot Guards. The men have a standing collar, round cuffs, cross pockets and open coats with lapels. The collar, cuffs, lapels and

dress indicates that in 1795 their coats were being worn buttoned over to the waist with the top triangles folded back to show the inner facings. Gainsborough's portrait of an Ensign of the 65th Foot was painted in 1778 and shows an intermediate stage when the coat was being worn buttoned over but with both the top and the bottom buttons undone.

However, perhaps the first and best example of the smart new closed-to-the-waist and buttoned over coat is shown in the portrait of Captain Fuller of the 41st Foot. Here the coat is clearly cut square at the waist and is buttoned across the chest to show the plain red side, but has the tops of both fronts folded back in what was to become an almost universal style in the British infantry of the early 19th Century,



Top left The jacket as specified in the 1796 Warrant and illustrated by Porter in the Manual and Firing Exercises of 1798. Also shown is the cocked hat which, by this time, had become almost cumbersome. Left The jacket of the 41st Foot from Captain Fuller's portrait. The epaulette is silver with two black lines and a silver star. A miniature of William Thomas by Frederick Buck shows a similar jacket but the bastion loops are reversed as in the inset sketch. A further miniature shows the same uniform but the lace is considerably narrower and is without the black stripe. Above right The coat of Ensign Powell of the 14th Foot (facings buff, silver buttons). This garment was in the Hereford Museum for many years before World War 2 and compares with a portrait by de Loutherbourg dated 1793. The buttons closing the back of the cuff are covered with cloth. Note the slanting pocket flap. The epaulette is of silver lace. The buttons are rather flat.

revealing the coloured lapels with laced button holes. What adds to the distinctive appeal of this particular portrait is the red (as opposed to scarlet) facings of the coat. The exciting new fashion caused many officers to rush off to their favourite miniaturists to have their likenesses taken and the results show that from 1793 until 1798 the style was so new that some officers had their coats made up differently to the remainder of their colleagues. For instance in the 41st Foot we find that one officer had narrower lace without the distinctive black line and that another had the bastion shaped loops on the collar and reverses reversed.

A print in the Military Library series dated 1800 shows an officer of the 17th Foot in a uniform which changed little throughout the remainder of the Napoleonic Wars except that the skirts are long. In this case the officer has the cocked hat worn across the head, the long-tailed coat buttoned

across the chest and down to the waist with the top triangles turned back, a standing collar and round cuffs and the crimson sash worn over the coat. A whitened shoulder belt for the sword, white breeches and knee length black gaiters complete the costume.

In 1792 sergeants discarded their halberds for pikes and in the same year the grenadier and fusilier sergeants were also ordered to carry pikes. Their comrades in the Light Infantry companies carried fusils and pouches. Light Company officers were, at the same time, ordered to cease carrying fusils.

An order of September 22 1796 specified plain black hats for all the Line and the Foot Guards with white feathers and tufts in the corners — white mixed with the facings colour for line regiments. The hats were ordered to have white loops and buttons for the cockades. The hats were bound with black worsted braid.



From the portrait of John St Leger, 65th Foot, 1778, by Gainsborough. The epaulette is of red cloth with silver lace and fringe. The facings are white, as is the waistcoat, but the breeches are of a creamy colour.



RB-57F from a Canberra

Bryan Philpott describes a challenging 1:72 scale conversion for model aircraft enthusiasts

THE RELEASE last year of the Airfix kit of the BAC Canberra opened the door to a multitude of conversions of this fine aeroplane. Four variants were featured in the April 1975 *Airfix Magazine* but these only scratched the surface of those which can be done by the dedicated conversion addict. At that time I mentioned the possibility of moving over the Atlantic to take a look at the American-built Canberra and its derivatives, but when those words were written I did not have in mind perhaps the most changed Canberra of all, the RB-57F.

It is perhaps incorrect to claim this aircraft as a Canberra variant, but since it can definitely trace its ancestry back to the original Martin licence-built machines, it is not stretching a point too far.

The conversion is certainly a challenging one and borders more on the line of scratch-building than straightforward kit modification. But in it I saw several opportunities to experiment and hope that readers might also like to try venturing along what was to me, fairly new ground. Before going on to look at the actual construction of the model, a few facts about the RB-57F will not come amiss.

The Canberra is the only aircraft of foreign design to be adopted for use by the US Air Force since World War 2 and, in its original form, was more or less identical to the B Mk 2.

One such aircraft, WD940, was flown across the Atlantic in August 1951 to act as a pattern aircraft for the Glenn-Martin Company who had acquired the licence to manufacture it in the USA in April of the same year.

The first aircraft to leave the production line were designated B-57A and differed

RB-57F from Yokota Air Base, near Tokyo, landing at Frankfurt in November 1974 (Aviation News).

only in engineering changes and the fitting of Wright J65-W-1 engines from the original British-built aircraft. A conversion to this type basically involves only a change in paint scheme and the adoption of United States National insignia.

The following version, known as the B-57B, had a new forward fuselage providing tandem seating for the two-man crew, provision in the wings for eight 0.5-inch machine-guns or four 20 mm cannon, a rotary weapons bay, and wing pylons. This is not a difficult conversion and one that will follow in this series in due course.

Over 200 of this version were built and it served with the USAF until 1959, when it was gradually phased out of front line service, although it continued to soldier on with the Pakistan Air Force and the Air

National Guard.

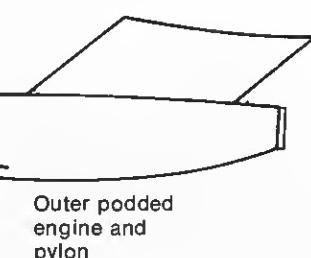
The B-57C was basically a 'B' with dual controls and 38 of these were built, again being passed to the ANG and the Pakistan Air Force. Some of these aircraft were fitted with a fuselage camera bay for reconnaissance work when they were designated RB-57B.

The first major visual change, which started to alter the complete appearance of the B-57, came with the RB-57D which was evolved for electronic and photographic reconnaissance. Although the fuselage remained similar to the earlier versions, the wing shape was completely altered and the first of the 'long span' aircraft saw the light of day. 20 examples of this aircraft were produced and only six remained as two-seat versions, the balance of 14 being

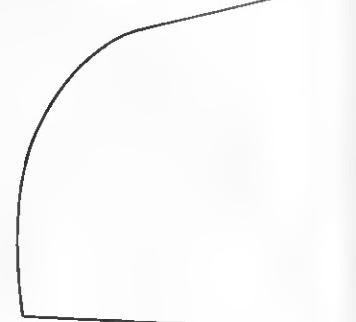
single-seaters. The two-place aircraft were designated RB-57D2s and had provision for in-flight refuelling while most of the others were called RB-57D(C). Some of these aircraft underwent many changes in their shape including a variety of bulbous noses and other similar blisters carrying ECM equipment. Overall lengths and wingspans varied depending on equipment carried but during this transitional stage the span crept up to over 107 feet and the length over 67 feet.

The final version was the B-57E of which 68 were built, these being used in the reconnaissance role as the RB-57E and the training role as TB-57E. This version was also used for target towing when it was equipped with towing equipment in a container mounted beneath the rear fuselage.

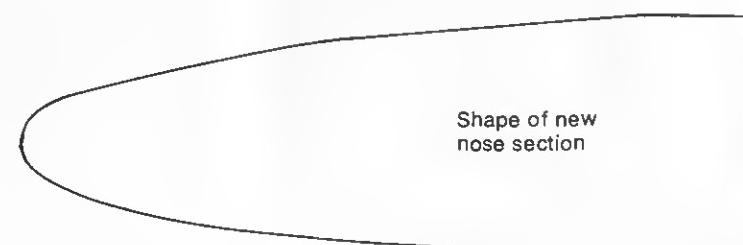
1:72 scale



Outer poded engine and pylon



New wing outer and inner sections shown solid. The dotted line indicates the increased size over the Canberra wing, the 'solid' lined Canberra outer panel indicating the best position for this inside the Airmodel wing

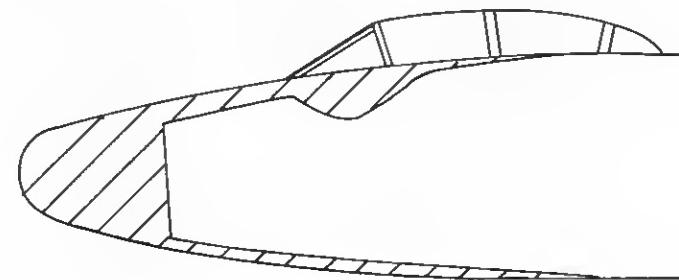


Shape of new nose section

Main engines. Note fluted channels top and bottom both sides, and intake under main intake



Eyebrow fairing added to rear orifice not shown in plan view of 1:100 scale drawings



Modified fuselage showing new nose and fin/rudder from Airmodel kit

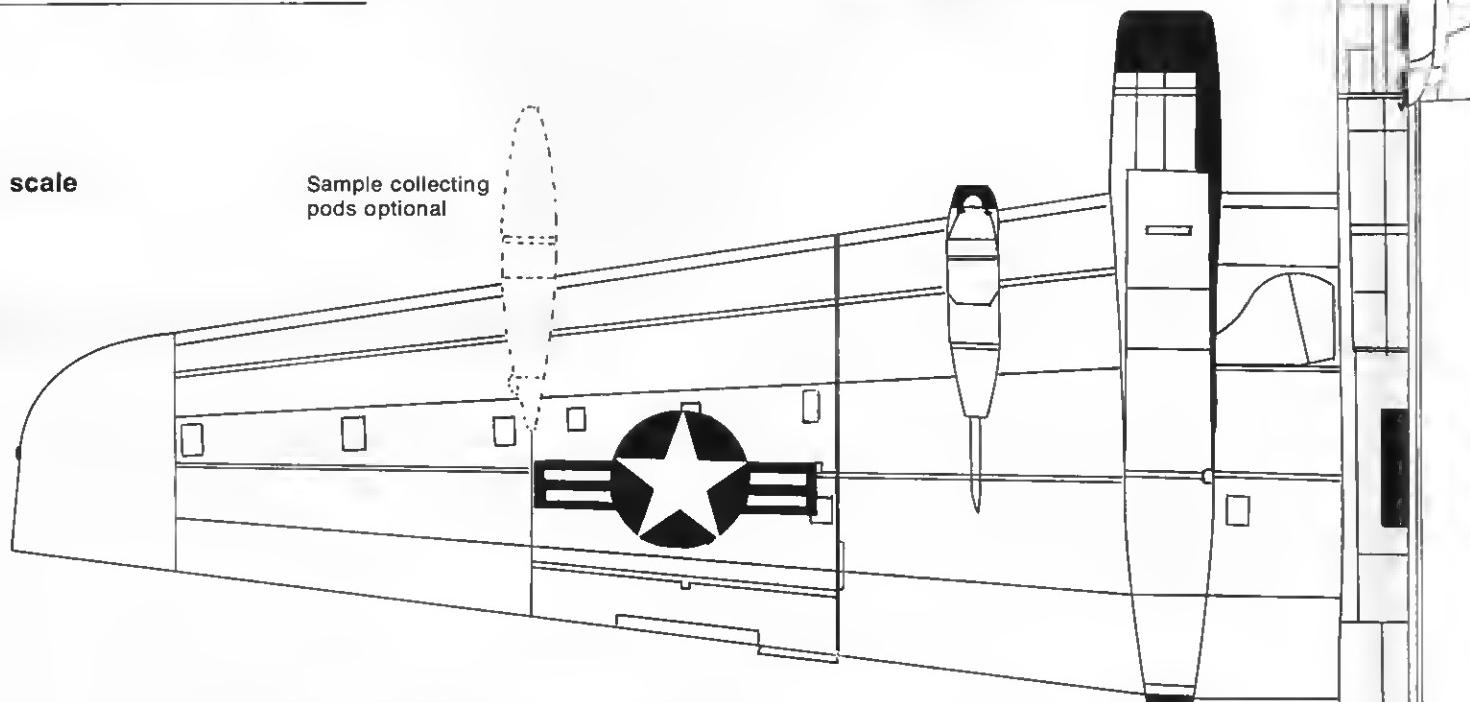


Starboard view of RB-57F 13291 as modelled by author (Aviation News).

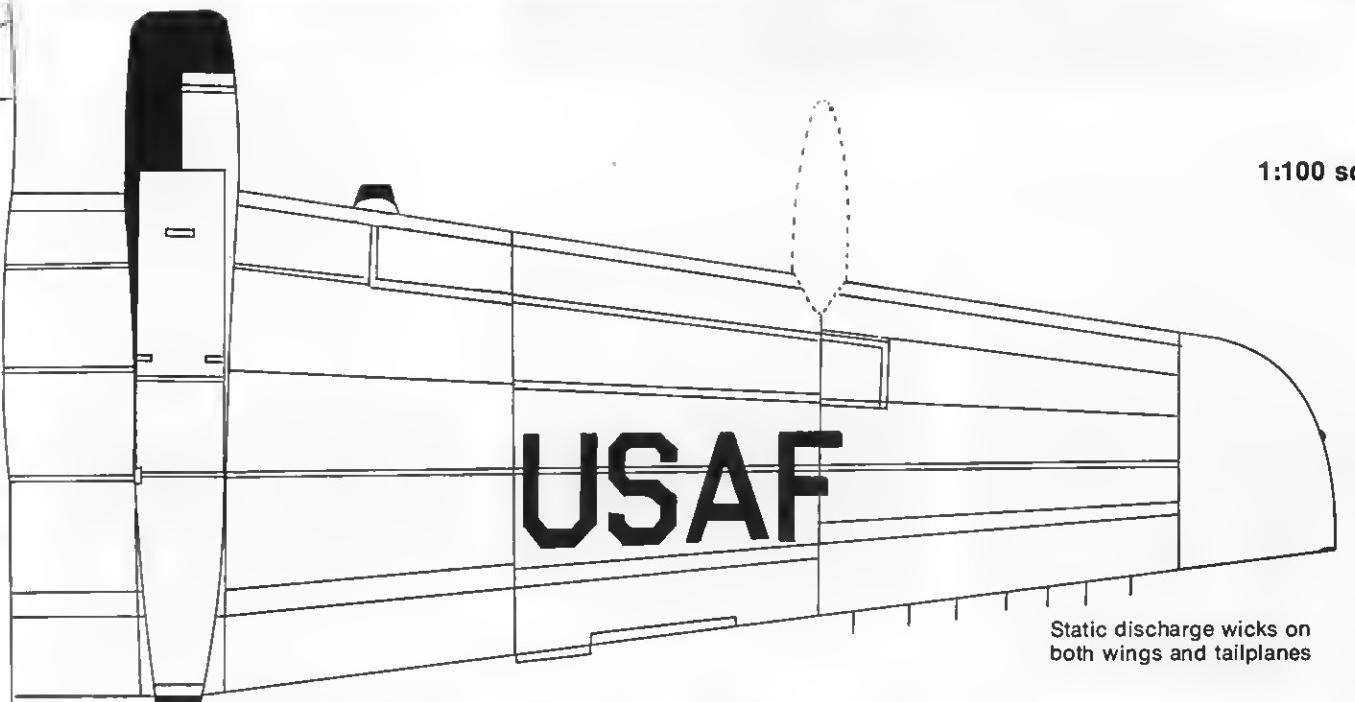


Port side view of the same aircraft (Aviation News).

1:100 scale



1:100 scale



In many respects the full story of the RB-57D variants has never been told and it is doubtful if it will be for many years yet. The aura of mystery that surrounds this aircraft certainly applies to the most drastically changed version of them all, which is the RB-57F, the subject of this conversion.

In October 1963 General Dynamics received a contract to carry out extensive modifications to the basic RB-57D design and airframes for this work were obtained by using discarded RB-57As, Bs and Ds, although only the centre-sections and aft

portions were employed.

Dominating the design is the massive wing, the span of which, at 122 feet 6 inches, is practically double that of the original B-57. The line of the wing is broken by the huge turbo-fan engines which are supplemented by the smaller J60 turbo-jets housed in removable pods beneath the wings, thus making the aircraft into a four engined version of the Canberra. Other noticeable characteristics are the new enlarged fin/rudder and the altered shape of the nose.

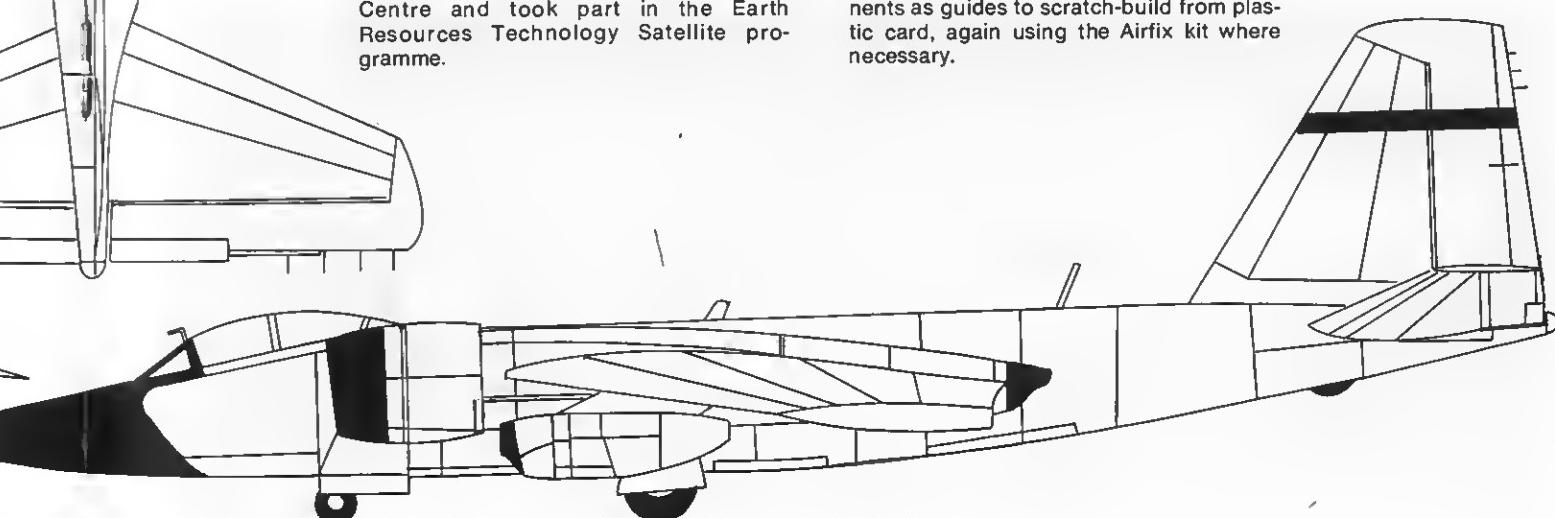
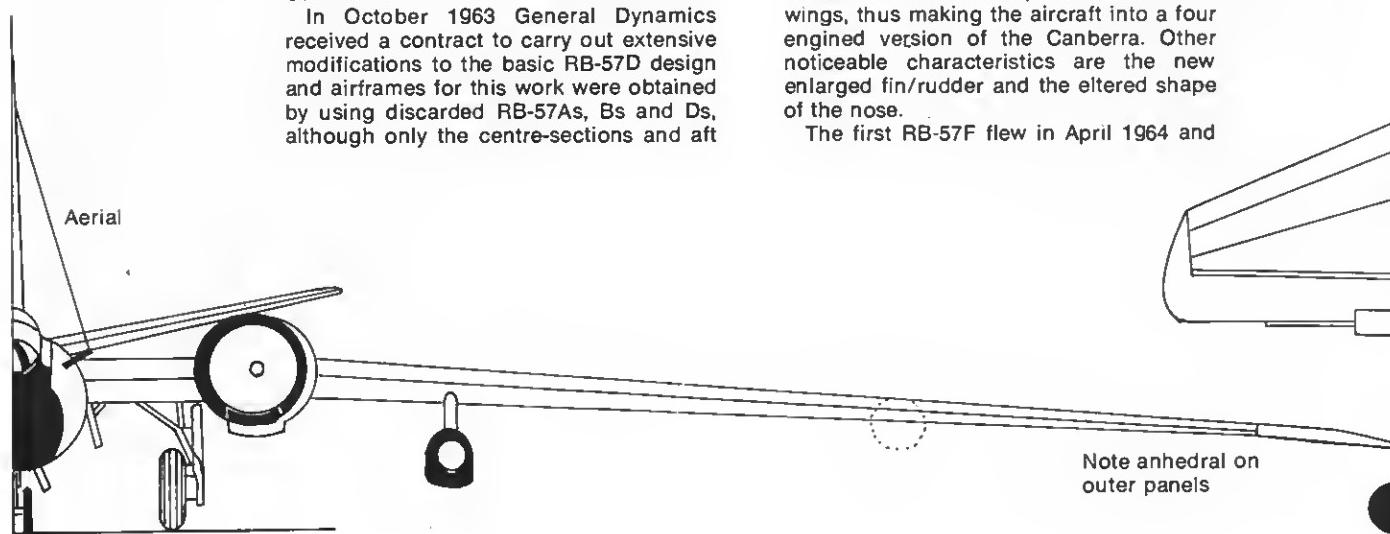
The first RB-57F flew in April 1964 and

the aircraft entered service in June of the same year.

Little has been revealed of the aircraft's operational history but it is used as a weather reconnaissance machine and can be equipped to take samples in the upper atmosphere. Indicative of this role, the designation was changed to WB-57F in 1971. In addition to weather flights the aircraft has also been used by NASA where it was operated by the Manned Spaceflight Centre and took part in the Earth Resources Technology Satellite programme.

The model

Soon after the release of the Airfix kit, the German company Airmodel brought out a complete vac-form kit of the WB-57F, which opened three options as far as the modeller is concerned. The first of these is to build the Airmodel kit exactly as it comes borrowing parts for the undercarriage from the spares box; the second is to utilise parts of the Airfix and Airmodel kits; and the third is to use the Airmodel components as guides to scratch-build from plastic card, again using the Airfix kit where necessary.





Of the three I chose the second as I feel — end this is purely personal — that a combination of injection moulded kit and vac-form produces a better result, as far as this particular manufacturer is concerned, than straightforward assembly of the vac-form kit. The Airmodel kit has not been advertised for some time but may still be available from stockists who advertise this range in the magazine, or from sources in Germany. If it is no longer in production then the third alternative will have to be used and the only major problem this presents is the manufacture of the engines.

The Airmodel fuselage is moulded in three sections of which only the nose portion is used as supplied. I started by cutting out the three parts then removed the fin/rudder from the tail section and cut off the wings at their root where they joined the centre-section. The nose halves were joined together and a cockpit floor added from plastic card, this was built up on the underside where the nose wheel locates and the nose wheel doors were removed from the moulding. During this operation weights were added to the nose and for this I used fishing weights held in position with Plasticine.

The Airfix fuselage was assembled as the kit instructions, leaving out the front bulkhead (part 19) and the rudder (parts 22-23), the bomb bay was inserted and the whole

RB-57F 13292, apparently photographed in Australia (Aviation News).



from plastic card, added to the insides of the engines at the front and rear. To add strength to the outer panels I removed the engines from the remains of the Airfix kit wings and placed the outboard sections inside the Airmodel wings. This is optional but the span is such that I feel it is well worth doing as they add rigidity to the vac-form parts.

After cementing the Airmodel wings together I fitted them over the stubs of the Airfix centre sections attached to the fuselage. To ensure a good fit I found it necessary to reduce the thickness of the moulded sections by sanding with a coarse grade wet and dry. Do not overdo this operation and check frequently so that you do not sand too much away. The aim is for a fairly tight fit but one that will not force the parts of the Airmodel wings apart if they are pushed on too vigorously. There will be gaps where the vac-form wings meet the fuselage and these must be filled with Green Stuff which should be merged into the fuselage contours whilst it is still in a workable state. I filled all the major gaps with a good quantity of filler and let this go hard before applying the final layer.

The fin/rudder is now cut off the Airmodel rear section and slotted over the top of the moulded fin that is on the Airfix fuselage. It is vital that the original Airfix nose is cut-off with a perfectly parallel cut or the model will adopt a nose-up or down angle, depending on the inaccuracy of the cut. The cross-sectional area of the injection-moulded fuselage should give enough area to ensure a good adhesion with the plastic card bulkhead, but if you do not feel confident about this, add another plastic card bulkhead to the Airfix fuselage so that the two parts butt joint together over the whole area of the plastic card bulkheads.

Any small gaps were filled with Green Stuff and the complete fuselage was allowed to dry throughout before any sanding operations were carried out.

Whilst this sub-assembly was drying I cemented together the complete Airfix wings, omitting the engine parts and ailerons (parts 42, 43, 44, 45, 46, 47, 50 and 51). The inboard section was then cut off just inboard of the engines and the two remaining stubs cemented into the location slots in the fuselage.

The wheel wells were cut out of the Airmodel wings before the two halves were fitted together and blanking plates, made

The Airfix tailplanes are assembled exactly as the kit instructions and cemented into their original locations.

I left the removal of the front and rear of the Airmodel engines until the model was at this stage. The rear orifice simply required a hole drilled in the middle and then enlarged with a round file. For the intake I again drilled a small hole in the centre then cut several radii from this out to nearly the outer rim. The ends of the radii were then joined with more cuts until the unwanted area was removed. This left a jagged periphery which was easily tidied up with a half-round file. Centre cones for the engines came from suitably sized bomb sections taken from the spares box but before these were positioned a suggestion of vanes was added to the inside bulkheads with strips of plastic card. The rear end of the engines are finished by the fitting of 'eyebrow' fairings made from 10 thou plastic card.

From photographs it appears that not all RB-57Fs had these fairings but I chose to fit them as the particular finish I had selected, which is the centre spread in Profile 247, shows that this particular machine — 13291 — had them at the time it was recorded.

The outer wing podded engines were made straight from the Airmodel kit and, like the main engines, had blanking off bulkheads fitted before they were joined together. These were fitted in place by using locating pins made from plastic rod which were inserted into drilled holes in the undersurface. This gives a better join than the butt joint that is provided in the kit.

The cockpit was completed by the addition of seats from the spares box or modified from the Airfix kit, and the canopy cemented in position.

The whole model was then treated to a final clean-up with very fine wet and dry after which it was polished with Brasso, then washed in detergent before a matt white coat of paint was applied overall. Final blemishes were filled or sanded out then the black areas on the nose and engines painted. These areas were then masked out and the model sprayed overall with Woolworth's Household Aluminium paint. This paint gives a dull natural metal look which in my opinion is better than a bright overall silver. A model of this size lends itself admirably to the technique of various toned panels which can look false



Another view of the completed model, a 'must' for all Canberra fans.

on smaller models, but even at this size care must be taken not to overdo the effect.

All markings came from the spares box with the United States Air Force on the fuselage coming from the F102A on Modeldecals sheet 11, and the large USAF on the wings from Blick dry-print sheet M 21. The band on the vertical tail was painted Cobalt blue and outlined in yellow with Letraset which also provided the small figures for the serial. The legend 'WEATHER' on the Cobalt blue band came from a Blick dry-print sheet and is in white. The black lines on the wing surfaces came from Letraset sheet 557 which contains a whole series of these lines and is a worthwhile addition to any modeller's inventory of markings.

Whip and blade aerials were made from plastic card and stretched sprue and attached with white PVA glue as explained in the Skyraider conversion published in the November 1975 edition of *Airfix Magazine*.

If the Airmodel kit cannot be obtained, scratch-building should not prove too difficult if it is tackled carefully.

The revised nose can be carved from a balsa block and the same material used to make the core of the wings. This core should then be covered with top and bottom wing sections made from 20 thou plastic card, panel lines and control surfaces being scored on the inside with a biro before the two halves are joined together. The fin/rudder can also be made from the same thickness plastic card using the original Airfix fin as a locating point or if prefer-

red, by laminated plastic card fitted in place after complete removal of the Airfix fin.

The engines would present the biggest problem and unless you are experienced enough to mould these from balsa wood formers it would probably be best to make them completely from balsa wood. The centre-section can be made as already described using the original injection-moulded parts to form the core for new plastic card components.

As far as the cockpit canopy is concerned, if you are very wealthy or have a spare one laying around, the canopy from a Frog Hasegawa B47 will be ideal, otherwise a moulded one using the well-known male/female mould method will have to be used. Construction of the original Airmodel kit is recommended for the less experienced modeller or the man in a hurry, the composite version for those who like a challenge in their modelling, and the scratch-built component for the out-and-out expert.

Whichever method is chosen the end result will certainly be an unusual model which, when displayed alongside a conventional Canberra, will show how the basic design has been changed, or if alongside, say, a Lancaster, how modern technology has advanced to an immense aeroplane with a two-man crew.

The most useful reference for modellers attempting this model is Profile 247, whilst William Green's *The World's Fighting Planes* also contains photographs and drawings.

RB-57F 13302, location unknown (Aviation News).



8th Army in the desert

Modelling specialised armour, by John Sandars

THERE WAS NOT a lot of 'specialised armour' used in the Desert, as the majority of the 'Funnies' were only devised shortly before the assault on North-west Europe. Three vehicles are, however, worthy of note, that do not fit into the normal tank, armoured car, carrier, or scout car categories. The first is the Scorpion Flail tank, locally produced in time for the Battle of Alamein, the second is the AEC Dorchester Armoured Command Vehicle, used throughout the campaign, and the last is the $\frac{3}{4}$ ton armoured truck, better known as the White scout car, which was introduced in mid-1942.

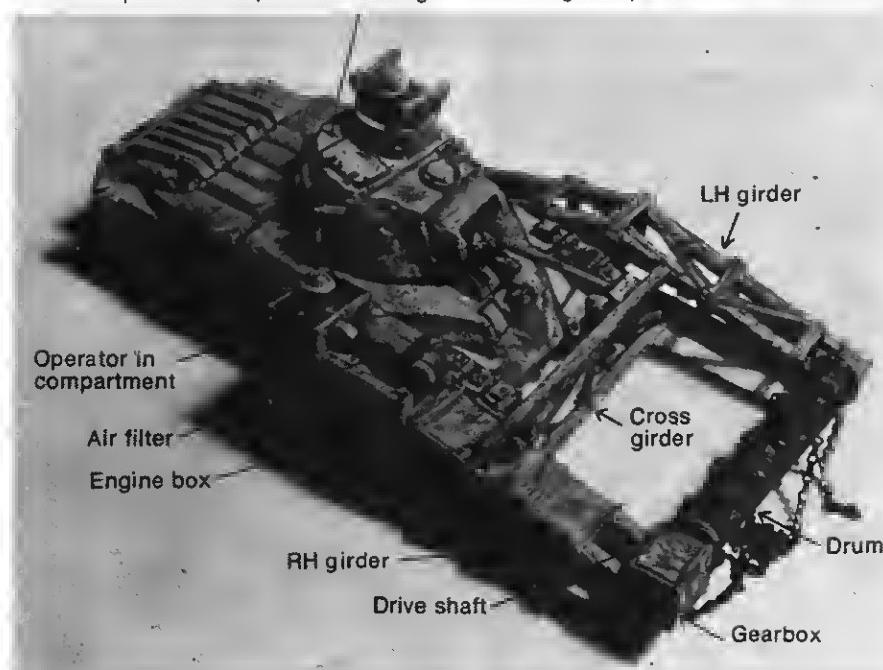
While the Dorchester has to be scratch-built the other two can be to some extent converted from existing kits. The basis for the Scorpion is the Matilda tank, and the Airfix or Fujimi models can be used. (The model shown in the photograph is, in fact, fully scratch-built.)

In the original a pair of metal girders bolted to either side of the tank held a rotating metal drum out in front to which chains were attached to beat the ground and explode mines. This drum was driven, through a right angle gearbox at the end and a drive shaft, by a Ford V8 engine in a metal box bolted to the side of the tank behind the right-hand support girder. In early models the back of this engine box had a position for the operator, but later the 'flail' engine was controlled by rods from inside the tank.

The engine box can be made from a piece of balsa approximately 18 mm long, 8 mm wide and 10 mm deep. The head and shoulders of an Airfix infantryman can be stuck on top at the back, with a 2 mm high



Above Scratch-built Dorchester armoured command vehicle. Note how one front window has been made open and the other shut; also numerous extras added to make the basic vehicle a better model. Below Matilda Scorpion minesweeping flail tank showing new parts added to basic kit.



card coaming around him.

In front of this the air filter, which can be obtained from an Airfix Crusader kit and is the bit that sits on the back end of each track guard, is glued.

The two girders can be made up from card as shown, or can be fabricated from wood or plastic rod if preferred. If thick card is used it will probably be best to cut out the parts and glue them together rather than trying to bend them as shown on

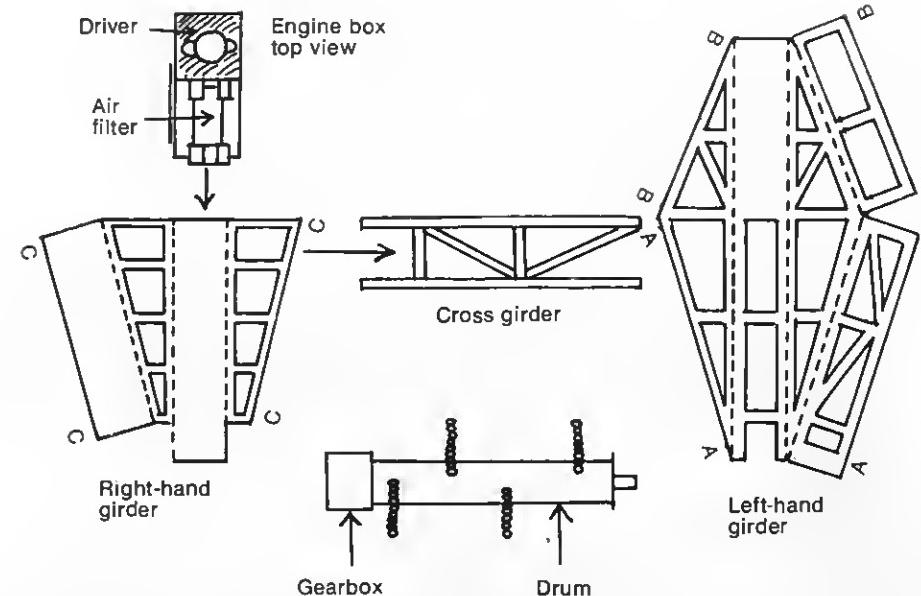


Diagram 1. The cross girder is similarly made and the rotating drum is a piece of 5 mm wooden dowel with lengths of miniature chain from a model shop pinned to it, while the gearbox on its right-hand end is a cube of balsa.

The two side girders should be glued to the drum assembly and the cross girder and offered up to the tank model so that the engine box may be positioned and glued to it. When this is secure the right-hand girder is glued to the front of the box while the inside of the left-hand one is glued direct to the left-hand side of the tank. Exact dimensions of the girders will depend on those of the tank model used, so this should be measured up carefully before starting work. A piece of sprue or rod can be inserted inside the RH girder between engine box and gearbox to represent the drive shaft.

The Dorchester, at least the LP version shown in Diagram 2, is very simple to make as it is little more than a box on wheels. This can be made from two pieces of balsa, a couple of hardwood axles, Airfix Matador wheels, and card doors, hatches, etc. The roof is a balsa rectangle, 7 mm thick, 6.25 cm long and 3 cm wide, with a bevel down each side. Three card hatches go on top and two windows in front; these can either be shown shut or open (see photo). Ventilators on the roof are thick card discs and aerial bases are cut from balsa rod.

The main body is cut from a block of balsa 8 cm x 2.25 cm x 3 cm. Diagram 2 shows the angles for cutting the bonnet.



Fold or cut girders on dotted lines and glue A-A, B-B and C-C

Diagram 1
Scorpion Flail attachment
Approx 1:76 scale

The wheel arches have to be carved out and the hardwood axles, with wheels pinned below. Small card mudguards go either side at the front, and card doors and vent grilles are fitted at the sides and rear. On the RH side of the vehicle half a dozen 1 mm plastic rods are

glued together horizontally to represent tubes for spare aerial lengths. To overcome end grain problems and give the model a smooth finish it can be covered with paper or card before the doors, hatches, etc, are added. As can be seen from the photograph much else in the way of figures and

kit can be added if you wish.

This method of construction produces a robust but somewhat simplified model, ideal for wargames. Full 1:76 scale plans and instructions for scratch-building a detailed model in plastic card appear in Bruce Quarrie's new book, Airfix Magazine

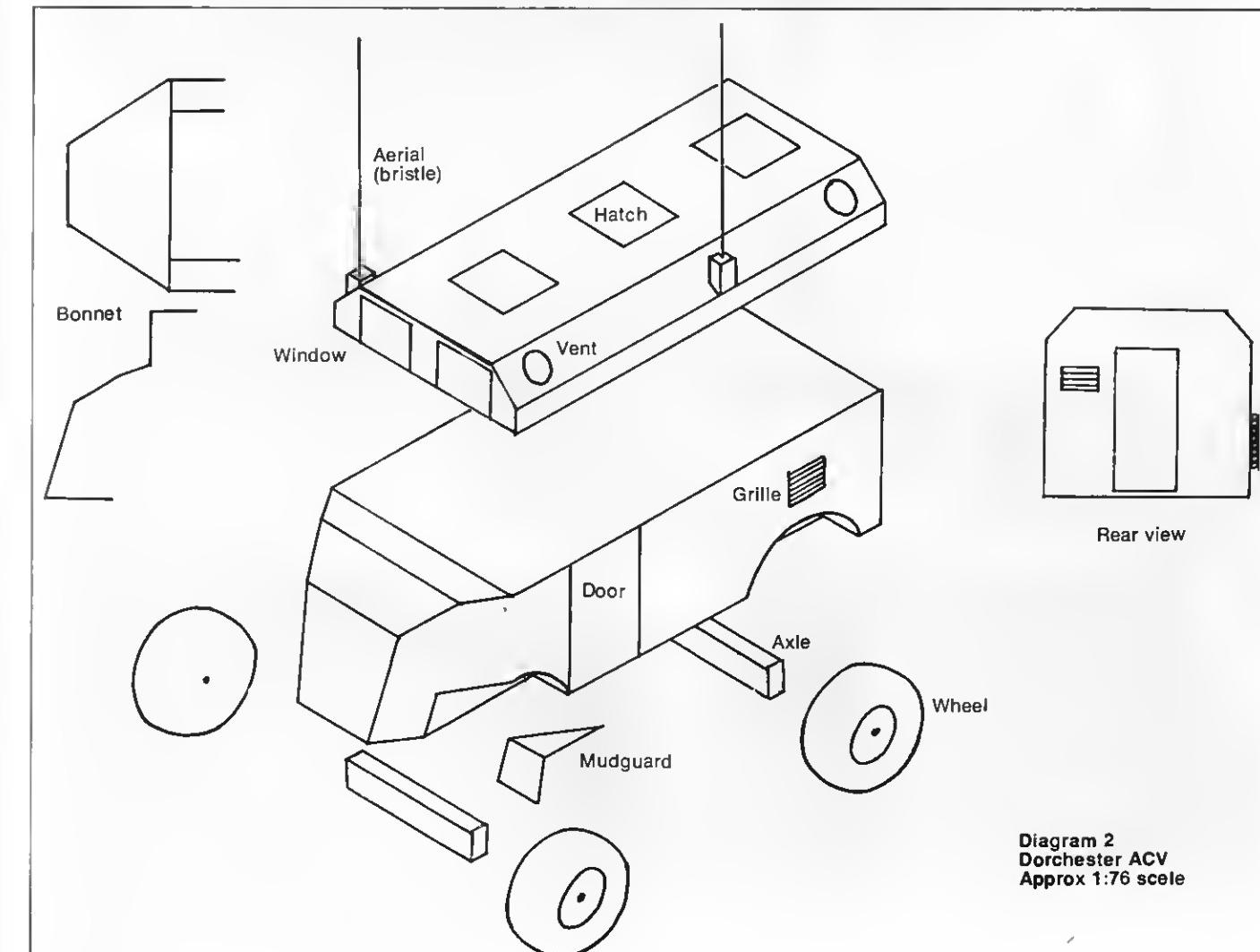
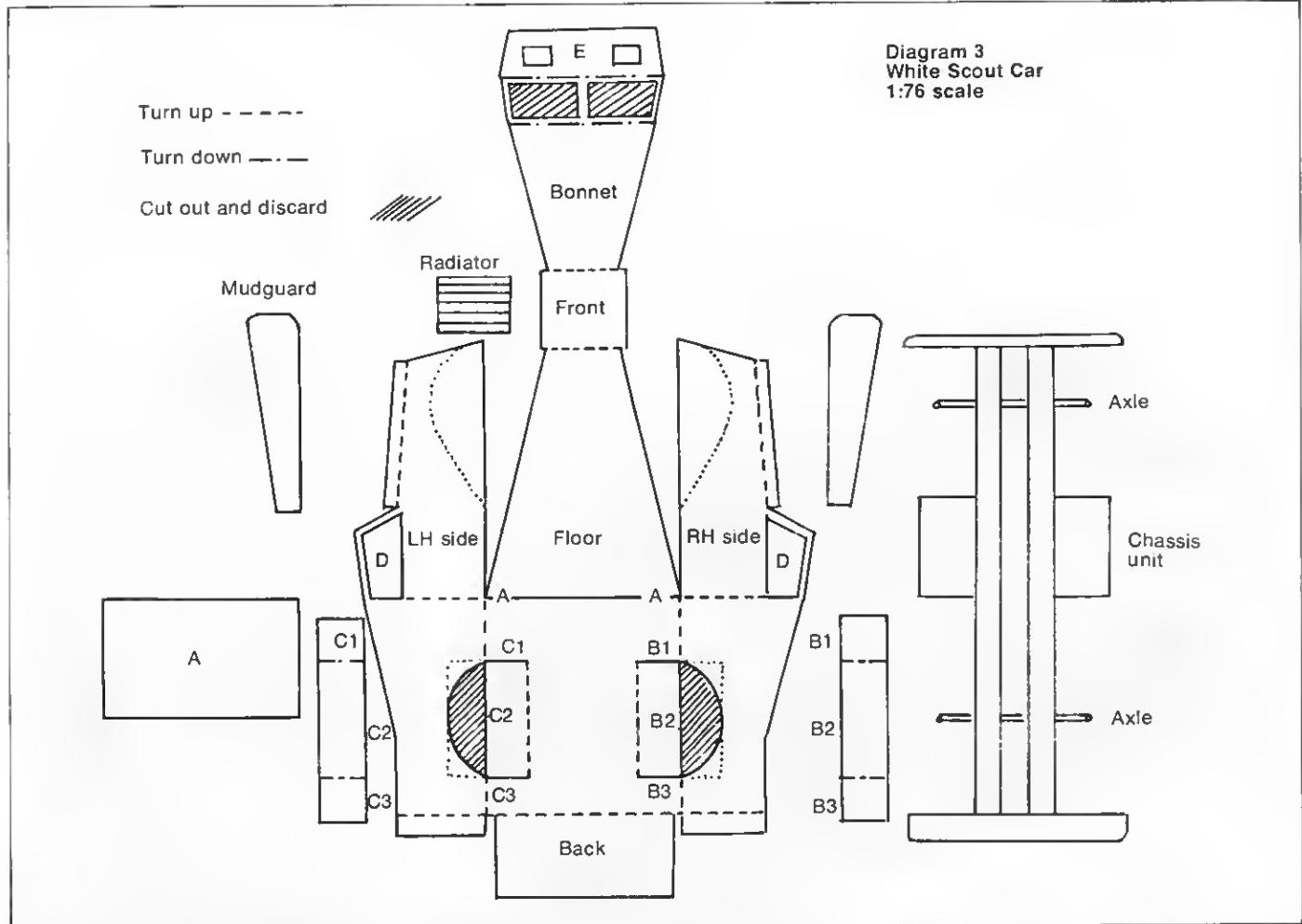


Diagram 2
Dorchester ACV
Approx 1:76 scale



Guide 12: Afrika Korps (PSL, £1.20).

The White, which although called a scout car was rather too cumbersome to be used as such, nevertheless saw service as an HQ vehicle for motor infantry units, and was used by other troops such as sappers and fitters, who had need of a reasonable sized vehicle to carry tools, etc, and several men around under fire.

The front end of the Airfix M3 half-track can be used as a basis for this vehicle, but it is not difficult to scratch-build complete, as the one in the photograph has been, using card on a wooden chassis. As, like the other models described it is a simple wargame vehicle, no seats, etc, are included.

Once again the card can either be

scribed and bent as shown in Diagram 3, or the parts can be cut out and individually stuck together if this proves easier. The chassis unit is stuck together from 2 mm thick hardwood and the axles with spare kit wheels are fastened beneath it.

The main body is then cut out, the sides being bent up, or attached, and glued to the bulkhead A on the line AA. The insides of the wheel arches are bent up and the strips B and C are glued over them to form boxes over the back wheels. The back is glued to the tabs at the rear of each side piece and the bonnet and windscreen are glued to them at the front.

The armoured visor, E, can either be left open and fixed as in the photograph, or it can be glued down to cover the windscreen; similarly the flaps, D, at the top of the doors can be left in place as if shut, or can be cut out and glued in the position shown in the photo, as if open and hinged down.

The radiator, with horizontal ruled lines on it to resemble armoured slats, is stuck on the front, and the mudguards are bent and glued in position on either side of the bonnet as shown by the dotted lines, before the completed body is glued on to the top of the chassis. When painted, doors, etc, can be lined in with paint and Indian ink. Headlamps and other extras can be added if desired.

More detailed 1:76 scale plans of the White are available on John Church print No 70.

The next article in this series will deal with scout and armoured cars.

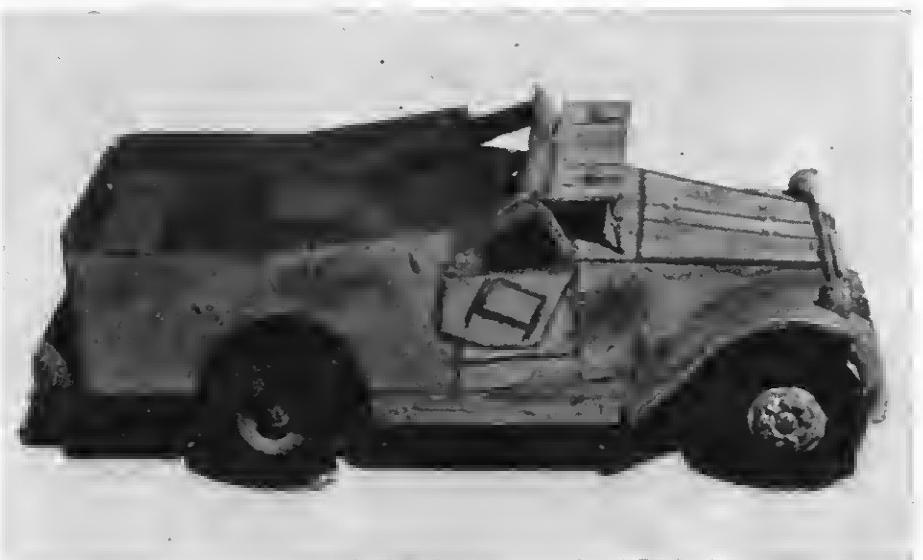
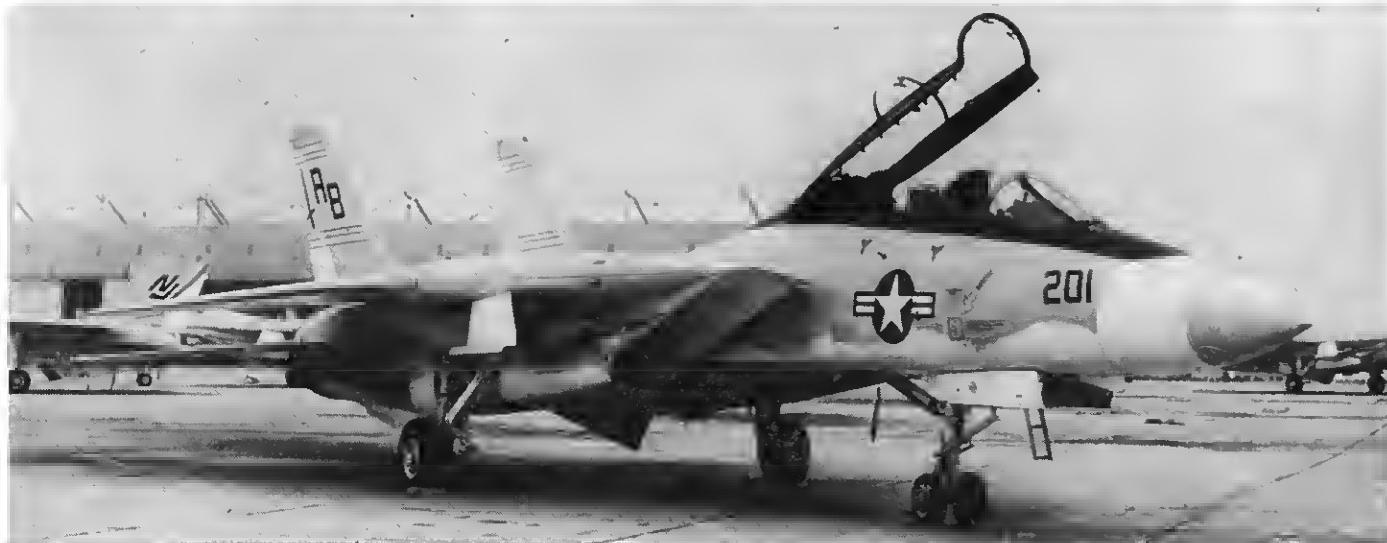
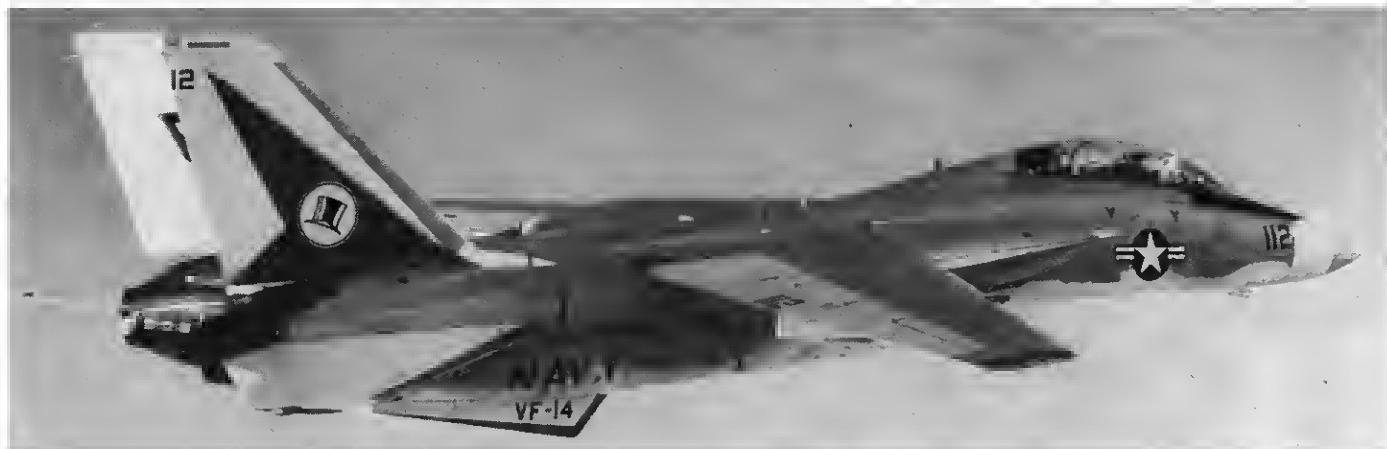


Photo feature for anyone modelling the new Airfix kit from Peter F. Guiver

Above Rear view of a VF-2 Tomcat at Miramar Naval Air Station, San Diego. Ventral fins are yellow and dark blue with white stars. Below Tomcats of VF-1 being loaded aboard the USS Enterprise at Naval Air Station Alameda in September 1974 for the first deployment of the F-14 with Carrier Air Wing 14 (US Navy official photos).





Opposite page, top F-14A of VF-14 from the USS John F. Kennedy in basic light grey and white. Fins are all white with red flashes. Fin badge is a black and white top hat on a white disc with narrow black and white outline. Nose radome is cream (front) and white. Nose code is black with upper left white shadow. Fin code 'AB' (on inner faces) is black with upper left red shadow. Tips of wings and tailplanes are red. Centre Two F-14As of VF-32, also based on the USS John F. Kennedy, in formation with a Grumman E-2C Hawkeye of VAW-125. Both these units form part of Carrier Air Wing One. Bottom Another F-14A from VF-32 in standard light grey and white with yellow horizontal fin bands. Sword and codes are black. This page, above Based at Naval Air Station Miramar with VF-124 is this Tomcat in light grey and white. Radome is cream (front) and white, fin flashes and bands at tips of wings and tailplanes are all red, aerials on fuselage behind cockpits are yellow. All codes are black. Below Tomcats of VF-1 and VF-2 on board the USS Enterprise (all photos US Navy official).





Americans invade Dorset . . .

Terry Gander reports from a recent exercise in the West Country

EXERCISE Triple Jubilee started on August 31 with the arrival of an American Amphibious Task Force at Plymouth. The Task Force included the Amphibious Helicopter Carrier Guam and the Landing Ships USS Ponco, Newport, Boulder and Coronado. The Guam, however, departed for the United States before the exercise was over.

The amphibious part of the exercise started at 0730 on Saturday November 8 when the first of 1,000 United States Marines came ashore. The amphibious landing took place at Arish Moll which is part of the Lulworth tank gunnery ranges in Dorset. The first two waves of Marines were brought in by LVTP7s, or Amtracks for short. The LVTP7 (Landing Vehicle Tracked Personnel) is of all-welded aluminium construction and is powered in the water by two water jets in the rear of the

hull, ie one each side, which give it a top speed in the water of 13.5 km/hr. Its top road speed is 64 km/hr, and it has a crew of three (commander, driver and gunner) and can carry 25 fully-equipped Marines. Other members of this family include the LVTC7 (Command) and the LVTR7 (Recovery) vehicles.

The first waves were to have had close air support by Harriers of the Royal Air Force flying from the Commando Carrier HMS Bulwark. An event in Belize (Central America) meant that the RAF had to fly six Harriers out there which left none for the landing.

The next waves consisted of landing craft which brought additional Marines and some of their vehicles. The first vehicles ashore were two bulldozers which were used to clear a path across the beach, an

all terrain tractor with a rolled up length of glass fibre roadway, and an excavating crane. The bulldozers were hard at work all day, not only clearing obstacles but also towing bogged-down vehicles off of the beach.

Among the many interesting vehicles brought ashore by the landing craft (LCUs) were M274 Mechanical Mules. These small vehicles were being used both as load carriers and as anti-tank vehicles armed with a 106 mm M40 Recoilless Rifle.

The 6x6 M561 Gama Goats were about the only vehicles which, apart from the tracked vehicles, were able to leave the beach without assistance. M151s were around in some numbers including some of the ambulance models which are known as the M718. Normal 6x6 M35 2½ ton trucks, most of which towed a small trailer, brought essential supplies ashore.

The landing was controlled from afloat, but Beachmaster Unit Two had a M142 4x4 truck on the beach with communications equipment installed. The M142 is essentially a standard M705 with a shelter mounted in the rear. Two LARC-5 (Lighter Amphibious Resupply 5 Ton) also came ashore in the early stages. These have a hull of aluminium and are powered in the water by a single propeller under the hull.



Top of page M35 6x6 truck coming ashore. Left One of the LVTP-7s. Right A pontoon approaching the shore.



M142 radio communication vehicle.



Above LARC-5 of Beachmaster Unit 2. Below top Roadway being prepared for laying. Below centre M274 mechanical mule with 106 mm recoilless rifle.



NEWS FOR WARGAMERS

An Introduction to Wargaming, by John Sandars, Pelham Books Ltd, 52 Bedford Square, London WC1B 3EF. Price £4.95.

AMONG THE MANY 'beginners' books on wargaming available today, this new one from John Sandars must rank as one of the most interesting despite the fact that, for all its general title, it is essentially concerned with the Western Desert battles of World War 2.

Much of the introductory material on the history of wargaming, setting up wargames tables and devising basic ground scales, movement rates, etc, will be 'old hat' to experienced players; it is when John gets down to brass tacks and starts talking specifically about 'his' theatre of operations that the book really gets interesting.

Essentially, what he propounds in this book is a set of wargames rules and playing equipment which are time consuming to prepare, but time saving in an actual wargames situation. He places great reliance on 'slide rule' type calculators, fire sticks and shell burst circles, and marking pins, counters and chips, which have the advantage of making everything readily visible when you want it, but the disadvantages of littering the wargames table with dozens of little coloured counters and the lack of any permanent move-by-move record of the game — which many wargamers like to keep and, indeed, in a campaign have to keep. We tend to prefer simpler game equipment even at the cost of having sometimes to make quite lengthy calculations from fire and combat effect tables, and at the bother of keeping written orders and casualty records, but freely admit this is purely a matter of personal choice, and John's system, which is certainly colourful, may well appeal to you.

The book is certainly well and clearly written, with individual sections on surprise, visibility and concealment, artillery and small arms fire, melees, casualties, morale, communications, logistics, breakdowns, attrition, weather, obstacles and field engineering, to name a few. Numerous diagrams in the text help explain how the author's systems work, but unfortunately only give examples rather than setting out all the relevant factors for the various types of vehicle and weapon used.

Although John is principally concerned with Western Desert operations, and gives two sample games showing how the rules work, there are notes and pointers to other periods and theatres which slightly broaden the book's appeal. Basically, though, unless you are interested in World War 2, or are prepared to devote some time to adapting the playing suggestions for other periods, this book cannot really be recommended.

World War 1

WORLD WAR 1 is a strategic simulation of

ent. *World War 1 and Strategy and Tactics* magazine are available through Simulations Publications UK, Freepost, Altringham, Cheshire, WA15 6BR.

With Pike and Musket, by C. F. Wesencraft, The Elmfield Press, Elmfield Road, Morley, Leeds LS27 0NN. Price £5.50.

THIS, MR WESENCRRAFT'S second wargaming book, is subtitled '16th and 17th Century battles for the wargamer', but is in practice limited to primarily English campaigns — the Irish Wars of Elizabeth's reign and the English Civil Wars of the 17th Century for the most part, though Pinkie and Nieuport also find their way in, the latter presumably because of the considerable number of English troops involved.

The first and shortest section of the book covers the historical background — weapons and their use, and the composition of armies. In general this is a sound, simply-written exposition, though unlikely to give any new information to anyone who has done his own reading on the period, but it does contain one or two dubious statements — for example, that the sword and buckler broke the power of the Swiss pikes, or that it was 'the weapon that finally destroyed the pike in Europe' is entirely untrue.

It is to SPI's credit that they have succeeded in making this simple game reflect the strategic conditions of the Great War with such uncanny accuracy. It is a real challenge to find alternatives to the historical decisions embodied in that struggle and to deliver the master stroke that would have altered the course of the war. This is surely what historical simulations are all about.

In *World War 1*, each of the die-cut, cardboard counters represent an army-sized unit which can be manoeuvred about a map covering an area stretching from France to European Russia and from the Baltic to the Mediterranean. Rail and sea movement and supply are catered for in simplified form.

More attention is given to combat and economic resources, which are the key to the game. Combat losses are accounted for by a loss of resources and/or territory or, in limited circumstances, in army units or destruction of fortifications, both of which can be rebuilt. In deference to the peculiar conditions of the time, an attacking force usually suffers more heavily than the defending one, sometimes appallingly. The Eastern Front is particularly nasty for the Russians, while an all-out assault on the Western Front by either side will make the players think twice before trying it again!

Another questionable feature is the mounting of infantry and cavalry figures on bases of identical frontage, and the reviewer personally prefers to stick cavalry figures firmly to their horses rather than keeping them removable as is necessary under these rules. In general, however, these look like a set which have been properly tried, and which would particularly suit beginners, or a very large battle in which the number of troops and units involved precludes the use of more elaborate rules.

The last section, more than half of the book, consists of 37 battles of the period for 're-fighting' (two with the Scots, three from the Irish wars, Nieuport, and the rest from the English Civil Wars). Each comprises a simple plan of the battle as a wargame, a brief account, with numbers and names of leaders involved, any special rules needed, and a list of wargames fig-

ures required, usually at a ratio of one figure to 50 or 100 actual men. These are well worked out, and provide a wide choice of interesting wargames situations, which is their intention; they are not sufficiently in-depth to allow a very close simulation of history or the drawing of military-historical lessons or insights.

Overall, there is a good deal to commend this book to the beginner in wargaming, who is presumably its intended audience, but it has relatively little to offer those more experienced, either in wargaming generally or this period in particular. A pity, then, that the impact of inflation in the publishing world has pushed its price to £5.50, out of reach of many of its likely readers. A good buy for a school library, perhaps?

Readers interested in the pike and shot period, whether wargamers or not, will find more 'meat' in George Gush's new book, *Renaissance Armies 1480-1650*, reviewed here in November.

Lee Vs Meade

THE FIRST THREE days of July 1863 ended all hope of a victorious end to the American Civil War for the Confederate States when their Army of Northern Virginia, under General Robert E. Lee, was defeated by the Union commander, Major General George Meade, and his Army of the Potomac at Gettysburg. One third of the forces engaged became casualties.

Gettysburg has been the subject of many board games with Avalon Hill's game of the same name probably being the first available in the UK. The most recent one is SPI's 'Cemetery Hill' and just before that Rand Games produced their version, 'Lee Vs Meade'. All three can be obtained through Simulations Publications UK.

'Lee Vs Meade' is a sort of hybrid between games of the 'Campaign' and 'Risk' types and true conflict simulations, which can be very complex. The rules are few and simple with the exception of those governing actual combat between units. Here the makers have had a field day by devising charts that enable the players to select tactical formations for combat. The attacking player can select one of six attack options and the defender has a similar choice of defence options. The reviewer first came across this idea in Avalon Hill's '1776' but Rand Games have gone further with their system.

They have used another clever idea to regulate movement of the pieces. The playing surface is a map of the battle area divided up into squares with each side and corner of every square displaying a number, this being the cost of moving a unit from one square to the next. The system is intended to allow for variation in terrain while permitting movement to be fast and simple, but it does give rise to some anomalies which may be irritating to the purist.

The entire three day battle can be fought out, or selected highlights if time is restricted. Instructions for setting up each of the scenarios are given, together with the conditions of victory.

To sum up, 'Lee Vs Meade' is a well-made, fast-moving game ideal for newcomers to the field of conflict simulations. It is available, price £4.45 (plus postage), from Simulations Publications UK, Crown Passages, Hale, Altringham, Cheshire, WA15 9SP.

PHOTO PAGE

Return of our popular feature by Michael Bowyer



Above A pile-up of three BEs at London Colney, date unknown (R. S. Humphreys). Below B-25D hybrid of No 2 Squadron RAAF at Hughes Field in 1944. Aircraft is 'Z', A47-36, ex-42-87255 (Frank Smith).



Above Dornier Do 24, possibly Kk-3K of Minensuchgruppe der LW. The background suggests a Mediterranean setting, and possibly the customary rear fuselage band has been overpainted. The fin serial is unreadable (Alejandro Dycueco). Below Avro York MW172 at Fayid on January 19 1955 (P. Clifton).



Kittyhawk of an unknown squadron photographed in North Africa in 1943 (M. J. Allen).



BOOKS FOR MODELLERS

Aircraft

Clouds of Fear, by Roger Hall. Bailey Bros & Swinfen Ltd, Warner House, Folkestone, Kent. Price £2.95.

IN RECENT MONTHS there has been a trend to re-issue some of the books that were written and published during World War 2, and the reader would be forgiven for thinking that *Clouds of Fear* is such a reprint. In fact this is a new publication based on the wartime diaries of fighter pilot Roger Hall, who transferred from the Army to the RAF, fought during the Battle of Britain; then as a night fighter pilot, and back to day fighters until September 1942. In his introduction the editor — who hides behind the initials JB — freely admits that he has had to severely reduce the original text, and sadly this becomes very apparent.

The style comes over as very forced and in many cases would be more at home in a 'Biggles' type novel than a serious work. There is no doubting the author's sincerity and much of the blame for the poor presentation of his work must fall fairly and squarely on the shoulders of the editor.

The publishers claim that this book will rank alongside such classics as Hilary's *Last Enemy* and Brickhill's *Reach for the Sky*, a sweeping statement that just does not hold water.

If you like such dialogue as 'Hallo Mandrake — Hallo Mandrake' Cocky called up. 'Maida Red one calling Bandit destroyed — Red two lost also — over.', the irritating use of pilot's nicknames, very few references to actual squadrons by number or aircraft type, then this is the book for you. But it does become rather juvenile and is questionable as a serious historic document. There are no photographs, but on the credit side there is an interesting account of Defiant night operations.

Jane's Pocket Book 6: Light Aircraft, edited by John W. R. Taylor. Macdonald and Jane's, Paulton House, 8 Shepherdess Walk, London N1 7LW. Price £2.25.

THE NAMES Jane's and Macdonald are synonymous with quality and at £2.25 this 7½ in x 4½ in soft-bound book keeps up a deserved reputation.

If light aircraft are your particular forte then this is the book for you. Each subject is treated to a full-page photograph followed by technical details, a line drawing and year of first flight.

It is presented in alphabetical order on good quality paper and includes a useful index in the rear.

Biplanes, helicopters, twins, crop-sprayers and executive aircraft from countries all over the world have been placed within the covers of this handy little volume's 255 pages. Reading it is certain to bring a touch of sadness as it is a true reflection of how this country's fortunes in this particular field of aviation have

declined since the pre-war heydays. But if you want a quick easy reference and a guide to the many light aircraft that now daily criss-cross our skies, you could do better than invest in this book.

RAF Bomber Command and its aircraft 1936-1940, by James Goulding and Philip Moyes. Ian Allan Ltd, Terminal House, Shepperton, Middx. Price £5.95.

THIS IS A lavish publication in the now familiar style of Ian Allan in which authors James Goulding and Philip Moyes set out to tell the stories behind Bomber Command and the aircraft used by it.

The text is enjoyable and reveals many interesting facts about the re-equipping of the Command prior to the outbreak of World War 2 as well as the first two years of the war. Modellers will particularly like the considerable number of close-up detail shots that will help in their efforts to improve kits of the aircraft dealt with. There are also a large number of general photographs, some that many will have seen before but others that are completely new.

Line drawings — to no particular scale — are included and there are also eight pages of full colour drawings that have been nicely executed by James Goulding.

All in all this is a worthy addition to the historian and modeller's book shelf, although at £5.95 some will have to take several looks before taking the plunge. It is presumed that the story will continue through other volumes so the end result will be well-worth having as it will present a useful and handy reference source for all bomber enthusiasts.

Six Months to Oblivion, by Werner Gerbig. Ian Allan Ltd, Terminal House, Shepperton, Middx. Price £4.25.

THIS BOOK concerns itself with the final stages in the fall of the Luftwaffe's fighter force. It takes as its focal point 'operation Baseplate', the assault by German fighters on the Allied Tactical Air Force on January 1 1945 with which it deals in some detail showing the parts played by the Jagdgeschwader involved. Apart from this it mainly catalogues the German interceptions of main US daylight attacks on Germany.

It is full of detail, which does not make for easy reading. There are useful listings of Orders of Battle and some interesting loss tables. There is little on the NJGs and little about the fighter interceptions of RAF bombers. Whether the RAF's night raids were ever mounted as terror attacks is debatable, certainly such an idea was never mooted in briefing.

Military

The Zulu War, by David Clammer. Pan Books Ltd, 33 Tothill Street, London SW1. Price 60p.

USING FIRST hand accounts, the author has

produced a battle by battle account of the war with all its problems. Isandlwana, Rorke's Drift, Kambula, Ulundi, and other lesser known battles and combats, they are all here. The text is backed up by 12 maps, eight contemporary photos and prints, and appendices on unit strengths and casualties.

Uniforms of the American Civil War, by Philip Haythornthwaite, illustrated by Michael Chappell. Blandford Press Ltd, 167 High Holborn, London WC1V 6PH. Price £2.50.

THIS BOOK IS up to the usual high quality of the Blandford Colour Series and has the immaculate text to be expected from Philip Haythornthwaite. However, it is in no way restricted to uniforms as the title and its predecessors in the series suggest.

In fact it includes short but comprehensive articles on the historical background of the war, casualty figures, organisation, rank markings, belt-plates and buttons, corps badges, artillery pieces, rockets, grenades, machine-guns, firearms, edged weapons, orders of battle for Gettysburg, and a full list of sources.

In the excellent plates by Michael Chappell 154 uniforms are illustrated, and it is a relief to see dress and decorative militia uniforms are kept to the right proportion.

With this title Blandford appear to be extending the scope of their books, and this one will certainly be invaluable as an introduction to the ACW for the modeller, uniform student, and particularly for the wargamer, listing as it does all the data that is needed for organising an army, painting it, and drawing up rules.

Leipzig, by Per-Eric Jansson. Almark Publishing Co Ltd, 49 Malden Way, New Malden, Surrey KT3 EA. Price £1.50.

SCHWARZENBERG'S mission to bring three main armies in a co-ordinated operation towards a common goal was, as Mr Jansson says in this new book on the 'Battle of the Nations', difficult in the extreme. The constant interaction of politics and military operations was disadvantageous, the communications a constant problem. Perhaps the entire venture was an impossibility against a soldier of Napoleon's calibre? The general idea was, at all times, to avoid a battle with the Master himself but, if it should become necessary, only in a defensive position. Not until October 15, in the orders for the following day, was a decisive battle foreseen, albeit in a hazy form which made the dispositions far too weak at the vital points. Leipzig was a great battle, Napoleon was thoroughly beaten in the field and Germany freed from his troops, but it took another six months to finish him off.

Leipzig has not got the fascination of Waterloo for English readers, but is popular with wargamers for the challenge it presents the French player, so this new paperback will probably have a ready following. Being only 48 pages long, it is necessarily a 'potted' account, but well reasoned nevertheless. Our main criticisms are the lack of any detailed maps, and the quality of the 16 pages of colour artwork by Victor Ambrus — which are full of character but too 'arty' and lacking in detail to provide the requisite uniform information.

The Franco-Prussian War 1870, by Robin May and G. A. Embleton. Almark Publishing Co Ltd, 49 Malden Way, New Malden, Surrey KT3 EA. Price £2.

ON JULY 15 1870 Louis Napoleon, emperor of France, declared war on Bismarck's Prussia — an event which had been stage-managed by Bismarck to further his aim of unifying Germany. The French, of course, badly organised, led and equipped, fared disastrously: it was almost like facing a Napoleonic army against one from 1914-18. And in this lies its fascination.

This well-written and illustrated book, which includes several pen and wash colour illustrations by Gerry Embleton, is a concise but useful guide to one of the most important but neglected wars of the 19th Century, and will be of especial value to schools as well as to wargamers, military modellers and historians. The many contemporary prints and engravings are particularly useful and attractive.

Ships

Ocean Ships, by Bert Moody. Ian Allan Ltd, Terminal House, Shepperton, Middx. Price £2.75.

THIS IS THE latest edition of the volume which lists in handy form ocean-going ships of the world. A new feature is the section devoted to cruise ships not listed in the main fleet sections. A third section deals with tankers.

The 300 photographs show just how much the appearance of ocean ships has been transformed by the bulk carrier and container ship. Gone are some of the most famous names of yesteryear. The practice of renaming ships is not overlooked, former names being listed where applicable.

A very useful volume to have at hand if you are in the habit of sailing or just enjoy looking at ships.

Cars

Cross-Country Cars from 1945, compiled by the Olyslager Organisation. Frederick Warne & Co Ltd, 40 Bedford Square, London WC1B 3HE. Price £2.95.

AS THE OWNER of an ex-Army Land-Rover for some seven years, I welcomed the arrival of the latest book in the well-known Olyslager Auto Library series. Some 250 examples of four-wheel drive and other special vehicles designed to carry passengers over rough ground are described and illustrated in this useful reference work.

There are plenty of good illustrations, and all the cars are listed alphabetically by make for easy reference, although a separate list by country might have been a helpful additional feature. Many of the famous cross-country vehicles are included: the ubiquitous Jeep, the popular Land-Rover,

the luxurious Range Rover, the Austin Champ, and even the tiny Mini-Moke. Cars from Dodge, Toyota, Volkswagen, Citroen and Chevrolet also appear in this study of post-war civilian and military vehicles.

The history of each car is described briefly, but modellers might find the book a little lacking in detailed specifications. Nevertheless the photos should prove most helpful.

LETTERS TO THE EDITOR

F4E Phantoms

FOR SOME TIME I have been collecting information to help with the construction of two F4E Phantom models and I found Mr Philpott's article (September 1974) very helpful. I would, however, like to make several observations.

My own feeling is that the Hasegawa kit is preferable to the Airfix kit as Mr Philpott implies. However I disagree with him in that I prefer the Airfix ejector kits as a basis for further work, because the Airfix seat reproduces the headrest profile better.

For those working with the Airfix kit a point to note is that the versions (C, D, E and J) with the larger low pressure tyres have bulged main undercarriage housings (see Aircam No 41).

In the references given by Mr Philpott, especially the Aircams, one must be wary of false captions, which are easily spotted. One aircraft, with a very substantial Vulcan cannon under the nose, is captioned, 'F4D...!'

Recently, in addition to the tailplane slats mentioned by Mr Philpott, extra UHF aerials have been fitted. These consist of strips of yellow plastic on the fin, intake and lower nose, as shown in the accompanying photograph of an RF4C.

Contributions

Letters to the editor selected for publication entitle the senders to each receive a free Airfix plastic construction kit, and the publication of photographs from readers is similarly rewarded. Airfix Products Ltd reward the kits on the following scale:

ONE letter or photograph published is rewarded by any kit from Series 1-8 inclusive. For TWO letters or photographs any one kit up to and including Series 12 can be chosen, or alternatively two kits up to Series 8. For THREE contributions the entitlement is any one kit from Series 1 to 20 inclusive, or any one kit from Series 1 to 12 plus two kits from Series 1 to 8, or any three kits from Series 1 to 8. Readers can make their choice on the special form which we send out after publication. The kits are supplied direct by Airfix Products Ltd.

Letters to the editor should be addressed to: the Editor, Airfix Magazine, Bar Hill, Cambridge, CB3 8EL. If a reply is wanted, a stamped addressed envelope (or International Reply Coupon) should be enclosed. All photographs submitted for consideration should be clearly labelled with the sender's name and address on the back of each.

Opinions expressed by correspondents on this page are their own and do not necessarily reflect the views of the Editor or Airfix Products Ltd.

Finally some notes on painting the details (taken mainly from notes relating to the F4E but generally applicable to most versions). Cockpit — overall matt dark grey, straps pale brown, parachute and survival packs (on seat) green-brown, instrument panels matt dark grey, instruments black and white. Undercarriage — legs, wells, insides of doors, hubs — gloss white, also stores pylons on some A/C and missiles.

Ross Marven, Huntingdon.

German airborne forces

SOME LIGHT can be shed on the discrepancy between the number of parachutists stated to have been available for Operation Sealion and Mr Wise's order of battle for them.

In the invasion of the Low Countries in May 1940, the Air Landing Corps used the 1st Parachute Regiment of three battalions, the 2nd Parachute Regiment of two battalions, and divisional troops of the 7th Air Division. After the division's successes in that operation, its build-up to full strength was expedited. Casualties were replaced and the normal triangular organisation completed by raising a third battalion for the 2nd Parachute Regiment and a 3rd Parachute Regiment of three battalions. In addition, an ad hoc unit of parachutists and glider-borne troops, Assault Group Koch, which had been used with conspicuous success to neutralise the Belgian fortress of Eben Emael and seize bridges around it, was expanded into the 1st Assault Regiment, initially of one battalion but by May 1941 of four.

All these units were raised during 1940, and first committed to airborne action in Operation Mercury, the invasion of Crete in May 1941.

To what extent the new parachutists would have been available for Sealion is problematic, but the proportion considered available presumably accounts for the difference between the number used in the invasion of the Low Countries and that estimated for the invasion of England.

Mr Wise's description of glider-borne troops charging out of their gliders with guns blazing immediately on touchdown is a little fanciful. The DFS 230 glider was a small and very cramped machine carrying a pilot and nine, not eight men, comprising a section of ten. Its occupants had to clamber out rather than charge, although they were trained to do so quickly. They had to collect their carbines, stowed separately at the front of the passenger compartment, and unload the other stores, such as machine-guns, ammunition and radio sets, stowed behind the passenger compartment. Anything left in the glider on

postbag

the ground for any length of time would probably be destroyed, as the glider was a very vulnerable target. Only after this was the section ready for offensive action.

The account of using a machine-gun mounted on the DFS 230 rather surprises me. One was pintle-mounted in a dorsal position for in-flight defence and covering fire on landing, but I thought only later in the war. This machine-gun could not have been controlled by the pilot on landing, as Mr Wise implies. As a flexible mounting, the gun must have been manned in flight by one of the passengers; this gunner would have fired it on landing, to enable it to be used immediately, rather than after the pilot had clambered back to the gun position three seats behind his own, while everyone in those seats was going the other way to collect their carbines and get

out!
John L. Norris, New Barnet.

Victorians unite!

THE VICTORIAN Military Society is a non-commercial body whose aim is to foster interest in the military side of the Victorian period, including the armies of Britain and her Empire and, to a lesser extent, the armies of other nationalities. A quarterly journal is published for members, and original articles are welcomed by the editor, Stuart Asquith, 196 Torbay Road, South Harrow, Middx. HA2 9QL.

Membership of the VMS costs £2.50 per annum for adults and £1.50 for those aged 16 and under. Send your subscriptions, or write for further information (enclosing a SAE) to the treasurer, Terry Wise, Walnut

Tree Cottage, Netherend, Woolaston, Lydney, Glos.

IPMS Hants (North)

THE HAMPSHIRE (North) Branch of the International Plastic Modellers Society was formed earlier this year and is now well established. Regular meetings are held on the second Monday of every month, at the Farnborough Community Centre, Elles Hall, Pinehurst, Farnborough. The normal range of Branch activities takes place, and the Secretary, Mr P. J. Bultitude, assures anyone, whether an IPMS member or not, of a friendly welcome. Full details of meeting dates and times can be obtained from Mr Bultitude by sending him a SAE at: 2 Anglesey Avenue, Cove, Farnborough, Hants GU14 8SH.

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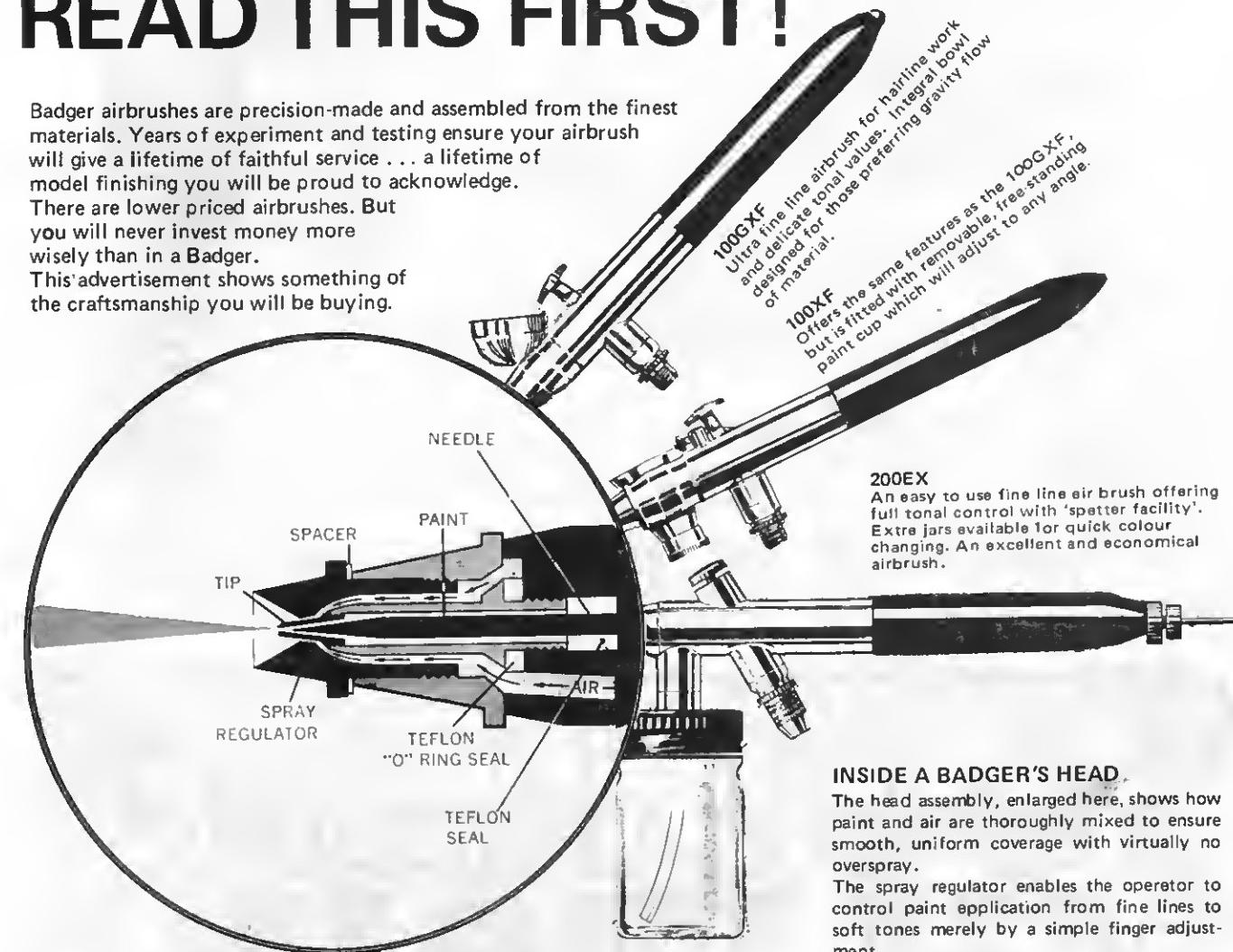


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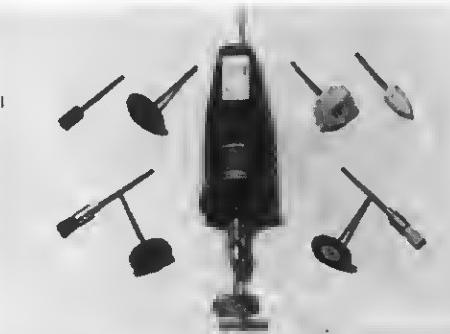
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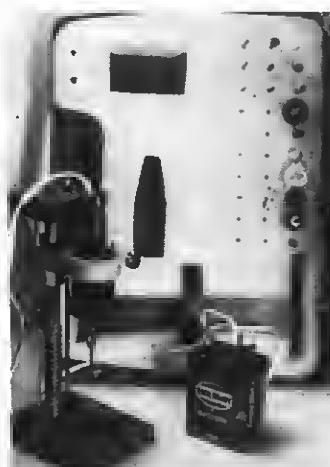
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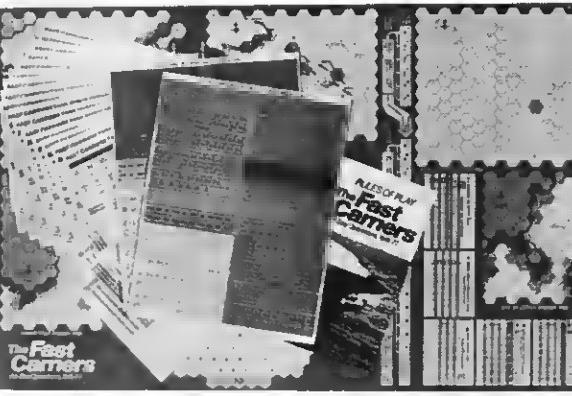
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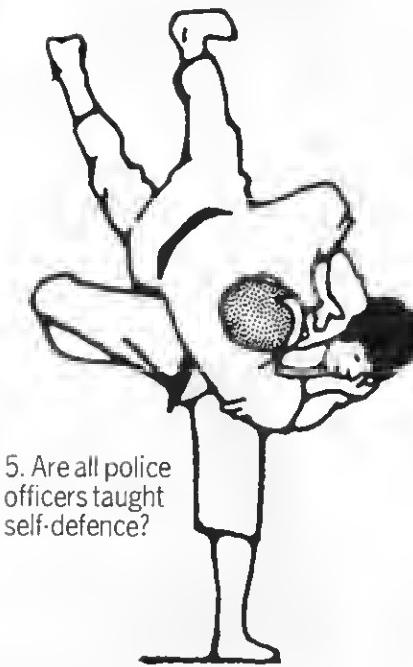
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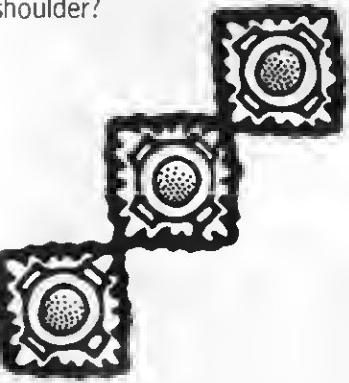
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4. What is the rank of the policeman wearing these on his shoulder?



2. What is a Special Constable?

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- 3. Police officer who assists the regular constable in times of stress.
- 4. Chieftain.
- 5. Yes.

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Atlas of the American Revolution with a day devoted to:

9.30 am to 5.30 pm
Saturday 27 March 1976
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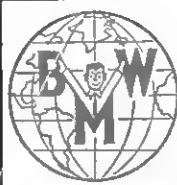
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